

# MARINE REVIEW.

VOL. V.

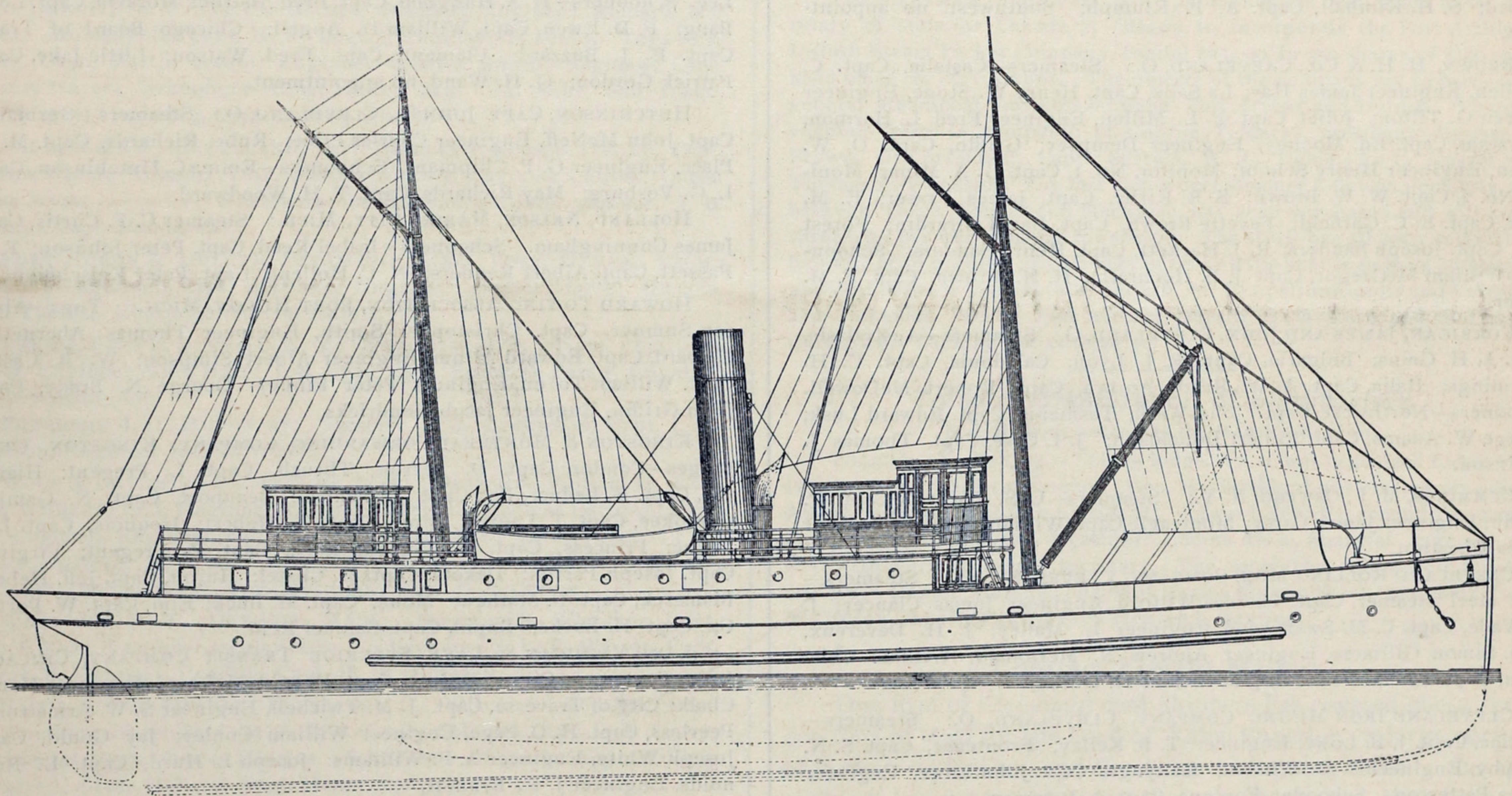
CLEVELAND, OHIO, THURSDAY, FEBRUARY 25, 1892.

No. 9.

## Government Boats for Maine and Oregon.

Two light-house tenders, the Lilac and Columbine, building at the yard of the Globe Iron Works Company, Cleveland, to go, respectively, to the First light-house district with headquarters at Portland, Me., and the Thirteenth district with headquarters at Portland, Ore., are described in the annual report of the light-house board just issued. These boats as they appear on the stocks at the yard of the Globe company are of great credit to the officers of the light-house board as well as the builders. They are duplicates, and it may be said of them in a general way that the hulls are as fine in appearance as either of the costly steam yachts that left the stocks in Cleveland recently and their engines are as neatly built as anything ever turned out by the Globe company. They will prove good specimens on the Atlantic and Pacific coasts of the work of lake shipbuilders. Another light-house tender for lake service, the steamer Amaranth, is

form the keelson and extend down to the skin of the vessel for three frame spaces, the floor plates on these frames being cut and securely riveted to the center keel-plate by angles 3 by 3 inches by 6 pounds. The side keelsons or girders will also run continuously, the floor plates and brackets between the girders being cut. This double bottom will be divided into four separate water-tight and independent compartments, each provided with a sufficient number of manholes properly constructed and so located that access can be had at all times to every compartment for cleaning and other purposes. There will be seven water-tight buldheads dividing the parts of each vessel above and forward, and abaft the double bottom, into eight water-tight compartments. The vessels will be built with a flat plate keel in double thicknesses and provided with an extra protective keel, also with one outside bilge keel on each side of the vessel. The vessels will be rigged as two-masted schooners, with pole top-



nearing completion at the yard of the Cleveland Ship Building Company, and four others, lightships for the Atlantic coast, described in Vol. 4 No. 7 of the REVIEW, are under way at the yard of F. W. Wheeler & Co., West Bay City, so that shortly after the spring opening seven boats will be turned over from lake builders to the light-house department, six of them going to the coast.

The engraving shows the general plans of the Lilac and Columbine. The material is Siemens-Martin mild steel, and the dimensions are :

	Feet.	Inches.
Length over all .....	155	0
Length from inside rudderpost to inside stem .....	145	0
Beam molded.....	26	6
Depth of hold from top of beam to top of keel-plate.....	15	2
Depth of hold from top of beam to top of double bottom.....	12	4

The vessels will be fitted with a double bottom. Inside height of this double bottom, in the clear between plates amidship, will be 34 inches. The vertical center keel plate will run from end to end of the vessel, tapered forward and abaft the double bottom, to the height of keelsons at these places; it will

masts, gaffs and derrick booms. Each will be supplied with a steam windlass, steam hoisting engine, and the best appliances for handling anchors, buoys, and cargo or any other purpose required by the service. An electric plant for operating a search light and for illuminating all parts of the vessel will also be a feature of importance.

There will be for each steamer one right-handed cast-iron screw propeller, about 9 feet 4 inches in diameter and of suitable pitch, driven by an inverted cylinder, surface condensing, fore-and-aft compound engine; the cylinders to be 22 and 41 inches in diameter, with a stroke of 30 inches. The steam will be furnished by two cylindrical single-ended boilers, 10 feet 8 inches in diameter and 10 feet 9 inches long, each fitted with corrugated furnaces.

In addition to the necessary trials of the machinery at the dock a trial trip is also to be made of about twelve hours' duration, or as may be directed by the light-house board, at the expense of the contractor, and the engine must develop 600 indicated horse power when making 110 revolutions per minute, with a coal consumption of  $2\frac{1}{4}$  pounds per indicated horse power, and steam, per guage, at 100 pounds pressure per square inch.



### Appointments of Masters and Engineers.

Following is a partial list of appointments of masters and engineers for the coming season. Additions will be made to the list during the coming week, with a view to having it as near to being complete as possible, and owners who have not as yet reported the officers of their boats will be greatly favoring the REVIEW if they will send them in as soon as possible:

ALGER, SMITH & CO., DETROIT, MICH.: Steamers—Volunteer, Capt. Thomas Hackett, Engineer P. B. McCabe; Gettysburg, Capt. W. H. Rollo, Engineer W. P. Wenner. Tug Torrent, Capt. S. H. Currie, Engineer J. M. Cronenweth.

ASHLEY & DUSTIN, DETROIT, MICH.: Steamer Frank E. Kirby, Capt. A. J. Fox, Engineer Edward Perry.

BRADLEY LINE, CLEVELAND, O.: Steamers—Gladstone, Capt. J. Holmes, Engineer John Broderick; Hesper, Capt. B. H. Jones, Engineer J. W. Twohig; Pasadena, Capt. F. H. Rae, Engineer William Wilkie; M. B. Grover, Capt. M. Mulholland, Engineer William Angell; City of Cleveland, Capt. C. Moran, Engineer H. C. Talbot; R. P. Ranney, Capt. William Anderson, Engineer H. F. Hunt; E. B. Hale, Capt. L. Stough, Engineer Gilbo; Fred Kelley, Capt. Henry Peterson, Engineer R. S. Hannah; J. S. Fay, Capt. W. Morris, Engineer Irwin Morrison; Superior, Capt. Paul Howell, Engineer William H. Bond; S. E. Sheldon, Capt. C. H. Tift, Engineer F. E. Wheeler; Henry Chisholm, Capt. John Wysoon, Engineer R. E. Smithells. Schooners—Ahira Cobb, Capt. E. Saveland; John Martin, Capt. Charles Ahlstrom; D. P. Rhodes, Capt. George McLeod; Adriatic, Capt. Henry Brock; Negaunee, Capt. Anthony Leland; Alva Bradley, Capt. George Richards; Sandusky, Capt. E. P. Spear; Thomas Quayle, Capt. Robert Anderson; S. P. Ely, Capt. J. M. Thomas; M. R. Warner, Capt. N. Gifford; S. H. Kimball, Capt. A. P. Klumph; Southwest, no appointment.

BROWN, H. H. & CO., CLEVELAND, O.: Steamers—Castalia, Capt. C. C. Allen, Engineer James Hay; La Salle, Capt. Henry W. Stone, Engineer Warren G. Tilton; Joliet, Capt. P. L. Millen, Engineer Fred. L. Harmon; Wawatam, Capt. Ed. Mooney, Engineer Dempsey; Griffin, Capt. O. W. Green, Engineer Henry Schoof; Monitor, No. 1, Capt. G. A. Minar; Monitor, No. 2, Capt. W. W. Brown; S. R. Kirby, Capt. James Fraser; E. M. Peck, Capt. E. C. Gatfield; Fayette Brown, Capt. David Girardin; Forest City, Capt. Joseph Sanders; R. J. Hackett, Capt. Henry Sanders. Schooners—William McGregor, Capt. J. B. Hochrath; H. H. Brown, Capt. E. M. Fuller.

CORRIGAN, JAMES AND JOHN, CLEVELAND, O.: Steamers—Australasia, Capt. A. H. Gains; Bulgaria, Capt. R. J. Lyon; Caledonia, Capt. C. H. Cummings; Italia, Capt. A. W. Reed; Aurora, Capt. Robert McDowell. Schooners—Northwest, Capt. John Ward; Tasmania, Capt. Edward Lusk; George W. Adams, Capt. Robert Donaldson; J. I. Case, Capt. Thomas J. Robinson.

CUMMINGS, M. J., OSWEGO, N. Y.: Steamers—C. S. Parnell, Capt. P. Griffin, Engineer James Carey; Monteagle, Capt. William Griffin, Engineer James Chestnut.

CLEVELAND ROLLING MILL COMPANY, CLEVELAND, O.: Steamers—New steel steamer, Capt. Thomas Wilford, Engineer James Clancey; J. H. Wade, Capt. C. M. Swartwood, Engineer L. Malley; J. H. Devereux, Capt. Simon Gillmore, Engineer Andrew N. McDonald; William Chisholm, Capt. Richard Call, Engineer Silas H. Hunter.

CLEVELAND IRON MINING COMPANY, CLEVELAND, O.: Steamers—Pontiac, Capt. J. B. Lowe, Engineer T. B. Kelley; Frontenac, Capt. S. N. Murphy, Engineer P. W. Whelan; Kaliyuga, Capt. John Lowe, Engineer James Patterson. Schooner Fontana, Capt. A. Peterson.

CAMPBELL, A. D., MICHIGAN CITY, IND.: Steamers—Walter Vail, Capt. James Sandford, Engineer Dan McMillan; Huron City, Capt. P. J. Canniff. Schooner Baltic, Capt. A. D. Campbell.

CRESCENT TRANSPORTATION COMPANY, DETROIT, MICH.: Steamers—John M. Nicol, Commodore Albert Stewart, Engineer J. Hayes; John V. Moran, Capt. Robert Rhynas, Engineer George E. Lynn; William H. Stevens, Capt. John Tyrney, Engineer George Fretheway; Eber Ward, Capt. William McLean, Engineer James G. Purvis; James Fisk, Jr., Capt. Louis Elliott, Engineer Elmer Tucker; Samuel F. Hodge, Capt. Murry McIntosh, Engineer W. T. Walker.

DETROIT & CLEVELAND STEAM NAVIGATION COMPANY, DETROIT, MICH.: Steamers—City of Detroit, No. 2, Capt. Alex. J. McKay, Engineer William S. Huff; City of Cleveland, Capt. Dugald McLachlan, Engineer John Sargeant; City of Detroit, No. 1, Capt. Duncan McLachlan, Engineer James Middleton; City of Alpena, Capt. Mathew Lightbody, Engineer John Jones; City of Mackinac, Capt. H. J. Slyfield, Engineer William McDonald.

DETROIT, GRAND HANEN & MILWAUKEE RAILWAY LINE: Steamers—City of Milwaukee, Capt. W. H. Smallman, Engineer C. E. Baron; Wisconsin, Capt. Thomas Homer, Engineer A. Currie.

DICKINSON, H. E., MILWAUKEE, WIS.: Steamers—Fountain City,

Capt. John L. Griffin, Engineer H. Gibson; City of Fremont, Capt. John Ackerman, Engineer W. J. Riorden; City of Marquette, Capt. A. N. Napier.

EGAN, W. M., CHICAGO, ILL.: Steamer City of Rome, Capt. R. H. Long, Engineer A. E. Welch.

FITZGERALD, R. P. & CO., MILWAUKEE, WIS.: Frank Keating, chief engineer. Steamers—P. D. Armour, Capt. F. D. Chamberlin, Engineer Thomas Marson; John Plankinton, Capt. L. H. Powell, Engineer W. G. Fell; R. P. Fitzgerald, Capt. L. E. Boyce, Engineer John Mertes; W. M. Egan, Capt. E. H. Francke, Engineer R. E. Walker; Pueblo, Capt. M. Fitzgerald, Engineer James Regan; Denver, Capt. P. Christenson, Engineer John Smith; Topeka, Capt. A. Gibbs, Engineer J. J. Staley; Omaha, Capt. D. Stalker, Engineer Alex. Staley.

F. & P. M. STEAMSHIP COMPANY, SAGINAW, MICH.: Steamers—F. & P. M., No. 1, Capt. M. McRae, Engineer R. McLaren; F. & P. M., No. 3, Capt. J. Stewart, Engineer F. McLaren; F. & P. M., No. 4, Capt. J. Russell, Engineer J. Collins; F. & P. M., No. 5, Capt. C. E. Moody, Engineer C. H. Wilcox.

HUBBARD, CAPT. CHARLES, TOLEDO, O.: Steamers—George G. Hadley, Capt. D. H. Mallory, Engineer J. F. Walker; Panther, Capt. Thomas D. Gibson, Engineer William N. Decker. Schooners—Massasoit, Capt. C. L. Goodsite; Penokee, Capt. John Griffin.

HAWGOOD & AVERY, CLEVELAND, O.: Steamers—George F. Williams, Capt. E. B. McQueen, Engineer James Balfour; Servia, Capt. Thomas Ellis, Engineer Andrew Wilcox; Waldo A. Avery, Capt. George Robarge, Engineer David Burns; George W. Morley, Capt. Edward Ballentine, Engineer A. J. Helbing; Belle Cross, Capt. W. H. Buzzard, Engineer James Lee. Schooners—H. A. Hawgood, Capt. Fred Alstrom; Moravia, Capt. Louis Bang; F. D. Ewen, Capt. William D. Augell; Chicago Board of Trade, Capt. E. J. Buzzard; Clement, Capt. Fred. Watson; Little Jake, Capt. Patrick Gordon; G. H. Wand, no appointment.

HUTCHINSON, CAPT. JOHN T., CLEVELAND, O.: Steamers—Germanic, Capt. John McNeff, Engineer Charles Price; Rube Richards, Capt. M. H. Place, Engineer G. P. Chipman. Schooners—Emma C. Hutchinson, Capt. L. G. Vosburg; May Richards, Capt. T. H. Woodward.

HOLLAND, NELSON, MARINE CITY, MICH.: Steamer C. F. Curtis, Capt. James Cunningham. Schooners—Isabel Reed, Capt. Peter Johnson; T. S. Fassett, Capt. Albert Renders; N. C. Holland, Capt. Peter Keischgens.

HOWARD TOWING ASSOCIATION, PORT HURON, MICH.: Tugs—Alanson Sumner, Capt. Christopher Smith, Engineer Thomas Abernethy; Howard, Capt. Edward Allum, Engineer Albert Simpson; W. B. Castle, Capt. William Tolien, Engineer Peter Finney; George N. Brady, Capt. John Griffin, Engineer Jacob Hendricks.

KINGSTON & MONTREAL FORWARDING COMPANY, KINGSTON, ONT.: Barges—Condor, Capt. D. Perron; Thrush, Capt. L. Pregent; Hiawatha, Capt. E. Leduc; Pet, Capt. D. Senical; Beauport, Capt. N. Gamlin; Cherokee, Capt. T. Laurin; Siren, Capt. T. Hebert; Iroquois, Capt. J. S. Leduc; Princess, Capt. M. Pigeon; Lark, Capt. Z. Pregent; Virginia, Capt. Joseph Perron; Dakota, Capt. M. Chatel; Huron, Capt. Jeff. Hebert; Bismarck, Capt. F. Mathew; Mona, Capt. M. Buck; Elm, Capt. W. Porter; Ox, Capt. H. Burke; Rapid, Capt. Samuel Reid.

LAKE MICHIGAN & LAKE SUPERIOR TRANSIT COMPANY, CHICAGO, ILL.: Steamers—City of Duluth, Capt. Donald McLeod, Engineer Henry Chalk; City of Traverse, Capt. J. M. Twichell, Engineer S. W. Armstrong; Peerless, Capt. H. C. Page, Engineer William Conley; Jay Gould, Capt. Joseph White, Engineer A. P. Williams; Joseph L. Hurd, Capt. L. Reynolds, Engineer J. R. Bennett.

LOUITT, W. H., GRAND HAVEN, MICH.: Steamers—M. H. Boyce, Capt. W. F. McGregor, Engineer M. Maher; Ionia, Capt. F. Van Patten, Engineer J. Farnham; C. A. Street, Capt. Thomas M. Cambridge, Engineer H. O'Hara. Barge M. McGregor, Capt. D. Miller.

LIVINGSTONE, W. A., DETROIT, MICH.: Steamers—T. W. Palmer, Capt. George F. Stilphen, Engineer Robert B. Hodge; Livingstone, Capt. William F. Wilson, Engineer Alex. Morison.

MOORE & BARTOW, CLEVELAND, O.: Steamers—John W. Moore, Capt. Richard Neville; Louisiana, Capt. John Coulter; James Pickands, Capt. P. Dowdell; Siberia, Capt. W. W. Morris; Marquette, Capt. Ed. Chilson; N. K. Fairbank, Capt. J. H. Stoffer.

MARINE TRANSIT COMPANY, MARINE CITY, MICH.: Steamers—Aztec, Capt. Fred. Howe, Engineer C. Deim; Toltec, Capt. James Taylor, Engineer A. Arenson. Schooners—Miztec, Capt. James Owen; Zapotec, Capt. Peter Thomson.

MILLS TRANSPORTATION COMPANY, PORT HURON, MICH.: Steamers—Gogebic, Capt. William Neal; Nawayago, Capt. John Jenkins; B. W. Arnold, Capt. Al. Neal; Pawnee, Capt. E. Davis.

MILWAUKEE STEAMSHIP COMPANY, MILWAUKEE, WIS.: Steamers—F. L. Vance, Capt. M. Tinney; R. P. Flower, Capt. C. M. Davis.

MOORE, TRUMAN, LORAIN, O.: Schooners—Alice B. Norris, Capt. F. E. Ingraham; Kate Winslow, Capt. Truman I. Moore.



MINCH, CAPT. PETER, CLEVELAND: Steamers—Western Reserve, Capt. Albert Myers, Engineer William Seaman; Onoko, Capt. William Gerlach, Engineer John Smith; Philip Minch, Capt. William Young, Engineer E. C. Bacon; H. A. Tuttle, Capt. Cornelius Young; John Glidden, Capt. W. H. Johnson, Engineer J. P. Klasen; A. Everett, Capt. Henry Trinter. Schooners—Sophia Minch, Capt. Joseph Lampoh; George H. Warmington, Capt. Frederick Galton; F. A. Morse, Capt. Horace Fisher.

MENOMINEE TRANSIT COMPANY, CLEVELAND, O.: Steamers—Roman, Capt. A. J. Greenley, Engineer A. Wells; Grecian, Capt. James A. Walsh, Engineer William H. Jerome; Briton, Capt. M. W. Gothan, Engineer O. H. Gilmore; German, Capt. T. W. Dunn, Engineer William Sanderson; Saxon, Capt. S. Murphy, Engineer George W. Mason; Norman, Capt. S. Stratton, Engineer Clement Clark.

MUTUAL TRANSPORTATION COMPANY, CLEVELAND, O.: Steamers—Cambria, Capt. John Dunn, Engineer Thomas Drysdale; Corsica, Capt. William Cumming, Engineer William Steen; Corona, Capt. J. B. Hall, Engineer A. Wilcox.

MCBRIER, JAMES, ERIE, PA.: Steamers—Uganda, (new boat building at Bay City), Capt. C. H. Wilson, Engineer William Meade; Nyanza, Capt. Frank D. Welcome, Engineer J. R. Blanchett; Fedora, Capt. Frank A. Fick, Engineer Charles Davis.

OWEN, J. EMORY, DETROIT, MICH.: Steamers—John Owen, Capt. E. F. Thorp, Engineer Edward Haycox; J. Emory Owen, Capt. J. P. Young, Engineer Martin Delaney. Schooners—Michigan, Capt. F. J. Cadotte; Nicholson, Capt. William Smith.

PARKER, A. A. DETROIT, MICH.: Steamers—Kasota, Capt. J. T. Hutton, Engineer Frank Tijprest; John Oades, Capt. T. LeMay, Engineer James Falkner; B. W. Blanchard Capt. Staddart, Engineer Richard Mahoney; Minneapolis, Capt. H. W. Bogert, Engineer T. Dines. Tugs—Favorite, Capt. Martin Swain, Engineer Charles Smith; Saginaw, Capt. Thomas Hayes. Schooners—B. W. Parker, Capt. Ed. Sohr; San Diego, Capt. Morey; Redwing, Capt. Charles Woods.

PALMER & CO., CLEVELAND, O.: Steamers—George Presley, Capt. Charles Miner; Wetmore, Capt. Charles Wallace, Engineer Church; Queen of the West, ———. Schooners—Brunette, Capt. John Connor; J. B. Kitchen, Capt. Henderson.

PORT HURON & DULUTH STEAMSHIP LINE, PORT HURON, MICH.: Steamers—Colorado, Capt. Donokey, Engineer Charles Burch; Osceola, Capt. Thomas, Engineer William Elliott.

PEREW, FRANK, BUFFALO, N. Y.: Steamers—A. P. Wright, Capt. John Perew, Engineer Aden Haze; J. B. Lyon, Capt. Frank D. Perew, Engineer Hugh McLangdon.

PETERSON, J. D., HURON, O.: Steamer J. C. Lockwood, Capt. J. D. Peterson, Engineer Josh B. Wood.

WOLF & DAVIDSON, MILWAUKEE, WIS.: Steamers—William H. Wolf, Capt. William Lund, Engineer Thomas Allbright; Thomas Davidson, Capt. J. H. Coleman, Engineer William Cavanaugh; Fred Pabst, Capt. L. W. Young, Engineer M. Toner; George H. Dyer, Capt. William Jamieson, Engineer Thomas Haig; F. Schlesinger, Capt. D. P. Craine.

WHITAKER, B. W., DETROIT, MICH.: Steamer B. Whitaker, Capt. Patrick Ryan, Engineer Jacob Sutter. Schooners—S. V. R. Watson, Capt. George M. Kunnea; Unadilla, Capt. H. H. Hickmott.

REPUBLIC IRON COMPANY CLEVELAND, O.: Steamers—Republic, Capt. J. A. Landfair; Specular, Capt. A. T. Rattray; Colonial, Capt. C. B. Tower; Continental, Capt. Charles Hinslea. Schooners—Magnetic, Capt. William McGarvey; Grace Holland, Capt. Henry Rodgers.

SCHLESINGER INTER-STATE TRANSIT COMPANY, MILWAUKEE, WIS.: Steamers—D. W. Rust, Capt. Frank Rice; Progress, Capt. Daniel Sullivan. Barge Tokio, Capt. J. W. Rafferty.

SULLIVAN, L. S., TOLEDO, O.: Schooners—C. C. Barnes, Capt. John Cunningham; John Schuette, Capt. Frank Henrich.

TONAWANDA BARGE LINE, TONAWANDA N. Y.: Steamers—F. R. Buehl, Capt. Woodgriff; Canisteo, Capt. W. J. Lynn, Engineer W. P. Boynton; A. Weston, Capt. M. Hyde; Alleghany, Capt. W. Sunderland.

WEBB, H. J. & CO., CLEVELAND, O.: Steamers—Roumania, Capt. R. J. Cowley, Engineer Edward W. Prince; J. H. Outhwaite, Capt. Louis Stone, Engineer Martin Burns. Schooners—John J. Barlum, Capt. George Brock; Genoa, Capt. Alex. Porter; Camden, Capt. H. Cummings; Thomas P. Sheldon, Capt. P. H. Smith.

WARNER & CO., CLEVELAND, O.: Steamer Keystone, Capt. William Burns. Schooners—J. G. Masten, Capt. Henry Parker; H. A. Kent, Capt. R. E. Byrns; Joseph Paige, Capt. W. R. Williams.

MISCELLANEOUS: Steamers—Vulcan of Cleveland, Capt. Frank Brown, Engineer Charles Sterling; Nahant of Cleveland, Capt. Thomas Jones, Engineer John Smith; City of Toledo of Toledo, Capt. Edward McNelley, Engineer Peter Jane; Porter Chamberlain of Alpena, Capt. C. W. Black, Engineer R. B. Buchman; Say When of Cleveland (yacht), Capt. J. D. Todd, Engineer Josiah Berney; Kittie M. Forbes of Milan, O., Capt. An-

drew Rattray, Engineer Robert Cameron; Hiawatha of Buffalo, Capt. Edward Thomas, Engineer George Charlton; Dean Richmond of Port Huron, Capt. W. W. Stewart, Engineer John Hogan; W. H. Sawyer of Tonawanda, Capt. Robert Gains, Engineer T. F. Trelerow; H. D. Coffinberry of Marysville, Mich., Capt. John Simes, Engineer Andrew Williamson; Iosco of Au Sable, Mich., Capt. David Hutchinson, Engineer Thomas Walsh; Nellie Torrent of Au Sable, Mich., Capt. M. J. Madden, Engineer Louis C. Purdy; City of Berlin of West Bay City, Capt. A. A. Cox; Simon Langell, Capt. Alexander Sinclair; City of Cleveland, Capt. Dan. Sinclair; E. C. Pope of Saginaw, Capt. Henry Zealand; A. Folsom of Bay City, Capt. H. H. Bennett; S. S. Wilhelm of Saginaw, Capt. Daniel McKenzie; C. H. Green of Saginaw, Capt. John Garry; W. P. Thew, Capt. William Patterson; T. S. Christie, Green Bay, Wis. Capt. P. Peterson; Tampa of Detroit, Capt. William Hutchinson; Edward H. Jenks of Port Huron, Capt. Egbert; H. B. Perue of South Haven, Mich., Capt. John Stevenson. Schooners—F. A. Georger of Cleveland, Capt. H. W. Phillips; Rosa Sonsmith of Saginaw, Capt. Charles Sonsmith; Mattie C. Bell of Saginaw, Capt. George Johnson; John O'Neil of Cleveland, Capt. George P. Leon; Nellie Reddington of Cleveland, Capt. Henry Andrews; Three Brothers of Lorain, O., Capt. Julius Porter; Hattie Wells of Port Huron, Capt. William Brownlee; Churchill of Alpena, Capt. Powers; Arenac, Oscoda, Mich., Capt. Davis; W. W. Stewart of Port Huron, Capt. L. Sinclair; Sonora of Port Huron, Capt. James Van Slack; E. E. Tyson of Port Huron, Capt. George McElroy; Minnie Davis of Port Huron, Capt. Elliott.

### New Passenger and Freight Line.

Special Correspondence to the MARINE REVIEW.

PORT ARTHUR, Ont., Feb. 25.—Application has been made to the secretary of state for Canada, at Ottawa, to incorporate the Port Arthur & Duluth Steam Packet Company, capital \$25,000, in 250 shares of \$100 each, head office at Port Arthur. The objects of the company are to carry on a general steamboat business between Port Arthur and Duluth. The provisional board is composed of George T. Marks, president; George H. Brown, vice-president; Capt. Servais, W. C. Dobie, A. L. Russel and Thomas A. Woodside. The fast side-wheel steamer Cambria, formerly run between Owen Sound and Mackinac, has been purchased and will make three trips per week during the season. The stock has all been subscribed by local people, whose great object in buying the boat is to have communication between Port Arthur, Duluth, St. Paul, Minneapolis and Chicago. The Canadian Pacific, Port Arthur, Duluth & Western and all Duluth railways are backing the enterprise.

### Toledo's Organization of Shipmasters.

Special Correspondence to the MARINE REVIEW.

TOLEDO, O., Feb. 24.—Toledo lodge, No. 9, was organized today with twenty-seven charter members. Geo. W. Stoddard was elected president; Albert S. Fitts, first vice-president; Edward McNelly, second vice-president; Charles Hubbard, treasurer; Lucius Goss, financial secretary and C. H. Hubbard, recording secretary. The appointive offices were filled as follows: Homer Durand, chaplain; James Cunningham, marshal; John M. Edson, warden and Frank Henrich, sentinel.

### Contract Freight Matters.

One firm of Cleveland coal shippers has covered about 100,000 tons of coal for the head of Lake Superior, a large portion of it at 50 cents a ton and the balance at going rates. Outside of this it has not been learned that anything has been done in coal contracts. As late as Tuesday of this week several big steamers were chartered for ore from the head of Lake Superior to Ohio ports at \$1.25. There has been some talk of Ashland contracts at \$1.20 for summer months but nothing of that kind has been done. The condition of the pig iron market is even worse than it was a week ago and Escanaba shippers are unable to do anything in the way of vessel contracts.

At the annual meeting of the Illinois Steel Company on the 10th. inst. the statement of the officers expressed the belief that the present year will exceed any previous year in the volume of business. The capital stock of this giant corporation is now \$50,000,000. The annual report showed that the net profits were \$1,038,797, against \$2,578,089 in 1890. The profits last year were equal to 5.57 on the outstanding authorized capital, while the profits of 1890 were equal to 11.09 per cent. Total amount of receipts of raw material, 3,026,456 tons; shipped 795,362 tons of finished product; paid in wages during the year, \$5,096,511; average number of men employed, 7,119.



### Figures from the Treasury Department.

For several months past Mr. C. H. Keep of the Lake Carriers' Association has been engaged in preparing statistics of lake commerce for the bureau of statistics, treasury department. The work, which covers the season of 1890, is altogether separate from anything presented in the several bulletins issued by the census bureau. With the permission of the officers of the treasury department, Mr. Keep gives the results of a small portion of this work in a pamphlet on the question of aids to navigation on the lakes just issued by the Lake Carriers' Association and Cleveland Vessel Owners' Association. The pamphlet is intended to accompany Congressman Taylor's bill for sundry aids to navigation on the lakes and is a very creditable document. It deals with statistics, the resolutions of the recent deep waterways convention at Detroit, peculiarities of the light-house services on the lakes as detailed in a recent report by Col. William Ludlow of Detroit, and concludes with a brief statement showing the necessity for each of the aids to navigation comprised in the general lake light-house bill. Copies of the pamphlet will be circulated freely in Congress and throughout the lakes. That portion of it relating to statistics contains the followidg:

"During the season of navigation of 1890 there was carried on the great lakes 30,299,006 tons of freight. To understand this total, one must measure the figures by some familiar standard of comparison. If the freight carried on the lakes during the year 1890 was loaded into railroad cars of fifteen tons capacity this freight would cover four tracks stretching from San Francisco to New York, with continuous lines of fully loaded cars and there would be a sufficient amount left over to cover in the same way two additional tracks from New York to Chicago. The value of this freight was \$342,522,290. It was carried an average distance of 566 miles, making the total mileage of the lake traffic for the year 1890, 17,149,237,396 ton miles. The total freight service rendered to the public by all the railroads in the United States, as shown by the second annual report of the statistician of the Inter-State Commerce Commission covering the year ended June 30, 1889, was 68,727,223,146 ton miles. The freight service rendered the people of the United States by the traffic of the great lakes during the year 1890 is, therefore, almost exactly one-quarter of the total freight service rendered to the public by all the railroads of the United States.

"Steamers of the largest size are increasing in number on the great lakes with marvelous rapidity. Dec. 1, 1886, there were on the lakes only twenty-one steamers having a registered tonnage of over 1,500 tons. On Dec. 1, 1891, there were 126 such steamers. On Dec. 1, 1886 there were on the lakes only six steel vessels with a total tonnage of 6,459 tons with a valuation of \$694,000. On Dec. 1, 1891, there were eighty-nine steel vessels with a total tonnage of 127,624 tons and a valuation of \$14,502,500. Thirty-two steel vessels are under contract to be built at lake ship-yards before the opening of navigation in the spring of 1892.

"The saving to the public from lake transportation is best shown by comparing it with the cheapest known rail transportation. According to the report of the St. Mary's canal, 9,041,213 tons of freight passed through the canal in the year 1890, which was carried at an average cost to the shipper of 1.3 mills per ton per mile. The average cost to the shipper of rail transportation in the United States is stated by the statistician of the Inter-State Commerce Commission in his second annual report at 9.22 mills per ton mile. The Erie Railroad, one of the largest coal carriers in the United States, collects from shippers on its coal traffic 5.4 mills per ton per mile. The Michigan Central Railroad, according to its last annual report, collects from shippers on its through traffic 5.02 mills per ton per mile. The last named figure represents the lowest cost of rail transportation in the United States. It is the charge exacted from shippers by one of the best equipped lines in the country on its through freight on which it has a long carriage and which consists in great part of exactly the same class of freight that is carried on the great lakes. If the freight carried through the St. Mary's Falls canal by water had been carried by rail at the lowest cost of rail transportation (5.02 mills per ton per mile), it would have cost the

shipper \$36,182,428. The saving to the public in a single year on Lake Superior traffic by the use of water transportation was \$26,710,213. Applying the same comparison to the entire freight traffic on the lakes, we find that the freight carried on the great lakes during the year 1890, if carried by rail at 5.02 mills per ton per mile, would have cost the shipper \$86,088,171. Carried by water at 1.3 mills per ton per mile, the entire lake traffic of 1890 was carried at a cost to the shipper of \$22,294,008. Water transportation on the lakes, therefore, saved the public in a single year \$63,794,163, or nearly double the entire river and harbor expenditures on the great lakes from the year 1789 to the present time. In this comparison, every advantage in method has been given the rail route. The lowest cost of land transportation has been taken, a cost little more than half the average cost of land transportation as shown by the report of the statistician to the Inter-State Commerce Commission. On the contrary, the figure (1.3 mills per ton per mile) adopted for the cost of lake transportation is the cost of lake transportation on Lake Superior traffic where there is the least available draft of water, which is therefore, higher than the average cost of lake traffic."

### Remarkable Comparison in Freight Rates.

It is probable that the question of contract freight rates on iron ore demands more earnest attention from vessel owners and shippers each winter than any other feature of the general lake freight market. The figures presented in the REVIEW last week on ore, grain and coal freight rates for a long period of years past were, therefore, very interesting, and have since been discussed in various ways. The most remarkable results taken from the summary of rates were the average contract and "wild" rates on ore from Escanaba and Marquette, which showed a difference in either case of only 1 cent a ton in twenty years past and only a fraction of a cent in ten years past. A typographical error in the figures last week would make it appear that there was a difference of 9 cents a ton in the averages from Escanaba but such was not the case. Following are the averages for twenty and ten years:

	—ESCANABA.—		—MARQUETTE.—	
	Contract.	Wild.	Contract.	Wild.
Average for twenty years past.....	\$1.305	\$1.295	\$1.710	\$1.700
Average for ten years past.....	1.050	1.057	1.258	1.268

The conclusion drawn from these figures by most parties interested in the ore trade is that the vessel owner will profit by accepting season contracts every time there is a margin above a fair return on his investment and by not contracting when such a return is not in sight.

### Dry Dock at St. Mary's Falls Canal.

"The proposition to locate a dry dock in immediate proximity to the lockage system is as objectionable as ever" says Gen. O. M. Poe in his annual report, "but if it should be decided to do so, then the location heretofore referred to, at the eastern end of the area transferred from the Fort Brady military reservation to the canal reservation, is the least objectionable, but the construction of a pier in front of the Fort Brady reservation has been completed, and a portion of this work would have to be removed, thus increasing by \$20,000 the probable cost of a dry dock, and the estimate therefore should be increased accordingly. The amount (estimated) required for the construction of a dry dock at this point is \$343,872, which should be added to the \$65,000 (more or less) which is understood the State of Michigan holds in readiness to transfer to the United States for the purpose of constructing a dry dock. It may not be improper to add that I am strongly opposed to the construction of a dry dock to be operated in connection with the canal."

Marine publications and the shipping fraternity throughout the country ask that owners of vessels give more attention to naming their property. Great confusion in the commercial community would be avoided if owners would remember that a name is of such importance to a ship that each vessel should have one different from every other. Nowhere is there more need of regard for this rule than on the lakes, with vessel movements reported daily, and still it is often disregarded.



## Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter &amp; Co., No. 104 Superior St. Cleveland, O.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$.....	\$ 80 00
Champion Iron Company.....	25 00	.....	70 00
Chandler Iron Company.....	25 00	48 00	50 00
Jackson Iron Company.....	25 00	.....	100 00
Lake Superior Iron Company.....	25 00	.....	*56 00
Minnesota Iron Company.....	100 00	80 00	82 00
Pittsburg Lake Angeline Iron Co.....	25 00	150 00	.....
Republic Iron Company.....	25 00	23 00	24 50
Ashland .....	25 00	.....	60
Section Thirty-three.....	25 00	.....	8 00
Brotherton.....	25 00	2 00	2 75

\* Ex. rights.

Mining stocks are not active and there is little hope of a general movement in the market until pig iron conditions are changed for the better. Prices show little change. A late and important announcement is to the effect that the Chandler Mining Company will pay another dividend of \$1 a share March 1. There is now little doubt that these dividends will be continued throughout the year and they must have an important bearing on the value of the stock. The Cleveland-Cliff company will undoubtedly pay the first installment of its 6 per cent. annual dividend on April 1.

Superintendent Keeler, in charge of the construction of the new Huron Bay railway, which has met with a series of financial ups and downs since it was projected something more than two years ago, now asserts very positively that ore will be carried over the road from Champion to Huron Bay during the coming summer. The roadbed is prepared and it is claimed that contracts have been let for ties for the full distance of 34 miles, with provisions made also for rails to arrive on the opening of navigation. Mr. Keeler claims that the company will build into Republic and Ishpeming and that surveys for these branches will begin just as soon as the weather will permit. The merchandise dock at Huron Bay is completed and half the piles are driven for the ore dock.

The Charleston Iron Company is one of the latest Minnesota corporations in the new Mesaba field. Its capital stock is \$2,000,000. Frank Cox and A. E. Humphreys of Charleston, W. Va., and John McKinley of Duluth are the incorporators. The names of A. E. Humphreys, Joseph Sellwood, O. D. Kinney, James T. Hale, James Billings, H. W. Pearson, D. L. Brown, E. R. McEwen, J. B. Youngston, Geo. Booth, James Duncan, Geo. E. Milligan, H. M. McIntyre, Capt. E. Florida, M. O. Brooks, M. A. Hays and Ralph McKenzie have all been connected with iron properties on the new range of late. They were among a party that visited the new town of Mesaba last week on a special train over the Duluth & Iron Range Railway.

Stock piles at the Chapin mine aggregate about 150,000 tons. This is more ore than the company had at the mine at the opening of navigation last season.

## Important Measures Passed by the Senate.

Special Correspondence to the MARINE REVIEW.

WASHINGTON, D. C., Feb. 25.—In the Senate action has been taken on some very important marine measures during the past week. Senate bill No. 744, relating to salaries in the steamboat inspection service was considered as in committee of the whole and passed without opposition. The bill provides for one inspector of hulls and one inspector of boilers in each of the following collection districts:

The districts of New York, N. Y., New London, Conn., Baltimore, Md., Buffalo, N. Y., Cleveland, O., New Orleans, La., Norfolk, Va., St. Louis, Mo., Dubuque, Ia., Detroit, Mich., Chicago, Ill., Michigan, Mich., Milwaukee, Wis., Port Huron, Mich., Willamette, Ore., Portland, Me., Puget Sound, Wash., Savannah, Ga., Pittsburgh, Pa., Evansville, Ind., Memphis, Tenn., Nashville, Tenn., Cincinnati, O., Galipolis, O., Wheeling, W. Va., Superior, Mich., Burlington, Vt., Appalachicola, Fla., Galveston, Tex., Mobile, Ala., and Providence, R. I.

The inspector of hulls and the inspector of boilers in the districts enumerated in the preceding paragraph shall be entitled to the following salaries, to be paid under the direction of the secretary of the treasury, namely: In the districts inspecting more than 100 steamers and less than 150, \$1,500 per year each; over 150 and less than 200 steamers, \$1,800; 200 and less than 300 steamers \$2,000; 300 and less than 500 steamers, \$2,500; 500 steamers and over, \$2,500. In addition the secretary of the treasury may appoint, upon the nomination of the supervising inspector of the district, in collection districts where there are 225 steamers and upward to be inspected annually, assistant inspectors, at a salary for the district

of New York, of \$2,000 a year each; for the districts of New Orleans, Philadelphia, Baltimore, Boston and San Francisco at \$1,800 per year each; and for all other districts at a salary not exceeding \$1,600 a year each; and he may appoint a clerk to any such board at a compensation not exceeding \$1,200 a year to each person so appointed. If this bill becomes a law it will take effect July 1, 1892. This same measure was passed by the Senate in the last Congress.

Through the efforts of Mr. Frye and the commerce committee, Senate bill No. 743, to establish a marine board, was also considered by the Senate on committee of the whole and passed. An amendment includes the chief of the division of revenue marine among the several heads of divisions in the treasury department who become members of the board.

The law passed by the last Congress providing for the marking of vessels' names on the bows and stern contained this section: "The owner, agent, or master of every inspected sea-going steam or sail vessel, shall indicate the draft of water at which he shall deem his vessel safe to be loaded for the trade she is engaged in, which limit, as indicated, shall be stated in the vessel's certificate of inspection." Mr. Frye characterized this provision as "simply an absurdity, leaving each man to determine the load line of safety for his own vessel." He could not conceive how it ever got in the act. A new bill was passed, accordingly, covering the same ground as regards the marking of vessels' names, and striking out the load line section.

Senator Brice is very much interested in the bill providing for sundry light-houses, fog-signals, etc., on the lakes. He described to your correspondent recently the difficulties attending lake navigation, on account of narrow and shallow channels, sudden fogs, etc. He shows a thorough knowledge of the subject. As a single illustration of the insufficient protection afforded lake vessels in the matter of lights, he refers to conditions at the Lime-Kilns' crossing, Detroit river, where the government expended \$800,000 in cutting a channel, but failed to provide lights by which vessels could be guided through the new waterway. "The more enterprising vessel men supplied the funds necessary to establish lights absolutely needed," he said, "and maintained them out of their own pockets. It was expected that Congress would authorize the future maintenance of these lights, but it has never been done. The result is that such vessel owners who are public spirited enough to see that the lights are maintained, find this a tax upon themselves, while others, to whom the lights are equally necessary, selfishly shirk the burden."

The petition of the Milwaukee steamship companies and other vessel owners and agents of Milwaukee, Wis., urging an appropriation for a new revenue cutter, to replace the worn-out Andy Johnson, has been taken from the committee on appropriations and referred to the committee on foreign commerce.

## That Milwaukee Ore Contract.

Special Correspondence to the MARINE REVIEW.

MILWAUKEE, Wis., Feb. 25.—The engagement recently entered into by the Milwaukee Tug Boat Line to carry the ore product of the Pewabic mine for 95 cents, which seems to have created genuine surprise in Cleveland, possesses features which make it preferable to an ordinary charter. The most prominent of these features is that the carriers are not hampered with an arrangement calling for a limited number of tons per month, but will be given the ore as fast as it can be forwarded from the stock pile, beginning as soon after the opening of navigation as the departure of frost will enable the product to be handled. Thus everything except the daily output of the mine can be delivered by Oct. 1, and a portion of the fleet will be free for "wild" charters during the two remaining months of the season, and on a par with outside vessels in taking care of "snap" deals.

Dock property near Broadway bridge has been purchased for the proposed Vandalia line steamers. This property is now being cleared for the erection of a warehouse, and repairs upon the dock line are in progress. F. W. Wheeler of West Bay City, who is one of the prime movers in the enterprise, has under his control four steamers which can be utilized for the Milwaukee & Chicago lines out of St. Joseph, viz., the Ossifrage, Lora, Minnie M. and Soo City. He has not yet determined whether to put one or two boats on each of these routes at the start, that is, he is undetermined whether to begin with a daily or tri-weekly service.

During his recent visit here, Capt. A. E. Shepard engaged the services of Louis Pahlow, for many years master mechanic of the Milwaukee Ship Yard Company, to design and superintend the construction of a side-wheel steamer, several steam yachts and a tug and lighter scows, for service upon an artificial lake, 27 miles long, near Austin, Tex., which is being formed through the medium of a dam across the Colorado river. This dam, which is to cost half a million dollars, will be the largest structure of the kind in the United States, and the lake it is forming will make Austin quite a pleasure resort. The passenger steamer to be constructed will be 178 feet long, with 50 feet beam over guards, 30 feet natural and 7 feet hold.



# MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, . . . . . } PROPRIETORS.  
F. M. BARTON, . . . . . }

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The books of the United States treasury department contain the names of 3,510 vessels, measuring 1,063,063.90 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The classification is as follows:

Class.	Number.	Tonnage.
Steam vessels .....	1,527	652,922.25
Sailing vessels.....	1,272	328,655.96
Canal boats.....	657	67,574.90
Barges.....	54	13,910.09
Total.....	3,510	1,063,063.90

According to the report of William W. Bates, United States commissioner of navigation, 46 per cent. of the new tonnage of the country was built on the lakes during 1889. This is a percentage greater than the work of the Atlantic coast and western rivers combined, and almost equal to the whole work on the Atlantic and Pacific coast. In 1890 the tonnage built on the lakes is but very little less than that built on the Atlantic and Gulf coasts. Tonnage built on the lakes during the past five years was as follows:

	No. of boats.	Net Tonnage.
1886.....	85	20,400.54
1887.....	152	56,488.32
1888.....	222	101,102.87
1889.....	225	107,080.30
1890.....	218	108,515.00
Total.....	902	393,597.03

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 234 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014.

Entered at Cleveland Post Office as Second-class Mail Matter.

UNLESS indications from Washington are misleading, Senator Frye's bill, No. 1,755, which has met with such a storm of disapproval from the merchant marine, will attract attention to the relations of the different branches of the treasury department toward vessel owners and their affairs in such a manner as to result in important changes in the inspection service and possibly the formation of a marine board having supervision of shipping matters. There is, of course, little chance of this bill passing in its present form, and action upon it will not be hurried, but Senator Frye's plans for having all objections referred to the same government board that formulated the bill would indicate that the commerce committee has mapped out a routine of action in its efforts to reorganize existing regulations. The Lake Carriers' Association and Cleveland Vessel Owners' Association both have committees at work preparing protests to the bill. The principal objections will have reference to the exacting requirements for the different grades of engineers, which would compel lake vessel owners to go to the seacoast for help in this line as the tonnage of vessels increases; the reduction in working pressure of boilers, which would render useless most of the boilers now in use, and the clause which gives the supervising inspector power to determine the number of engineers to be carried by freight steamers. Some regulations regarding lights to be carried on steamers and signals to be blown during thick weather will also receive attention.

ACCORDING to the 1891 report of the light-house board there are on the lakes 734 aids to navigation. The Fifth light-house district, embracing part of the seacoasts of Virginia and North Carolina, Chesapeake bay, the sounds of North Carolina and rivers tributary thereto, has 1,322 aids to navigation, or nearly double the number on the entire chain of lakes. There are sixteen light-house districts in the country, of which three

comprise the lake territory. In every one of the Atlantic, Pacific and river districts, excepting the Eighth and Twelfth, the number of aids is greater than in any of the three lake districts. With a water area of 77,500 square miles, a commerce greater than any inland commerce in the world and channels most difficult to navigate, the Ninth and Eleventh light-house districts, comprising Lakes St. Clair, Huron, Michigan and Superior, have but 448 aids of all kinds. It is no wonder that the vessel owners of the lakes have finally gone before Congress with a demand for more lights and fog signals, and the light-house board must admit the urgent need of them in justice to districts that have not been fairly recognized in this regard in the past.

As a result of the meeting held in Cleveland on the 8th inst., lake shipbuilders have sent to Washington a protest against the obnoxious clause of the treaty of 1817 with Great Britain which limits the naval armament on the lakes. The resolutions ask Congress to take such action as will formally declare the immediate and complete abrogation of this clause of the treaty. A 20-foot waterway to the seaboard is endorsed and the repeal is asked of section 4,136 of the United States statutes, which gives the secretary of the treasury the right to grant registry and enrollment to a freight built ship wrecked in American waters, providing repairs in this country are made amounting to one-half the value of the vessel in its wrecked condition.

IN his annual report for 1891, page 14, General Poe says the commerce of the Detroit river during the season of 1890 consisted of 35,640 vessels having a registered tonnage of 21,684,000. Not tons of freight but registered tonnage of the vessels. The freight tonnage of these vessels would, of course, be very much greater than the registered tonnage. All figures regarding the tonnage of this waterway are estimates, on account of the looseness of existing customs regulations, but it is very probable that this statement from Gen. Poe can be regarded as nearest to the actual commerce.

## Lake Light-Ships.

The annual report of the light-house board speaks of the new light-ships west of the Straits of Mackinaw as experiments. The report says: "The board has built during the past year three small inexpensive light vessels for lake use only during the season of navigation. Each has sufficient steam power for getting to and from her station, and each has a steam fog-signal and lights of sufficient range for her location. This experiment of attempting to use inexpensive light-ships instead of costly permanent light-houses is tried at the earnest request of the lake vessel men. Such small vessels would, however, be entirely inadequate for the boisterous weather and heavy sea of the Atlantic and Pacific coasts of the United States."

This is the first announcement of these light-ships being "experiments," and it is to be hoped that this expression from the board will not injure the chances of lake vessel owners inducing Congress to permit of more vessels of this kind being substituted for the proposed light station at the entrance to Green bay, where an appropriation of \$60,000 has been found to be insufficient for a light station.

Although the sailing vessel has been replaced on the lakes by steamers of large capacity and high power, with the change here to stay, Lloyds British register shows a marked tendency toward a return to the building of sailing ships in the United Kingdom. They are of course intended for the trade in which long voyages rule. Of the total tonnage constructed in 1887, according to the register, 9 per cent. were sailing vessels; 1888, 10 per cent.; 1889, 10 per cent.; 1890, 15 per cent.; 1891 25 per cent. As there are now 140 sailing vessels (chiefly steel), of 198,405 tons, building in British yards as compared with 103 vessels of 113,586 tons twelve months ago, the percentage for 1892 will undoubtedly show a still further increase.



## Quaint French Documents.

[BY J. W. WALTON, CLEVELAND, O.]

Dated Aug. 6, 1717, I find an edict in the book "Marine Laws of France," in tenor as follows:

"His majesty having regulated by his orders of the months of August, 1681, 2 June 1694, 1 June 1695, 2 February 1701 and 30 August 1702, the vessels on which chaplains must be carried according to the number of men of which crews are composed, has been informed that the merchants, under one or another pretext, dispense with placing any of them on the vessels which they fit out for long voyages, thus depriving the crews of spiritual succor; and wishing for the future that divine service be held upon the said ships, and in order to facilitate the means of so doing, his majesty, with the assistance of his uncle, the Duke of Orleans, regent, requires that in the time to come one priest, approved by the bishop of the diocese, or, if he belongs to a religious order, then by his superior, from which the vessel shall sail, shall be carried on each ship destined to make a long voyage, of which the crew shall consist of forty or more men. This priest shall serve as chaplain and fulfill the duties prescribed by the law of August, 1681. The penalty laid upon the owners for non-fulfillment is 200 livres (\$40) fine."

At the same sitting a law was passed requiring a strict examination to be made of the candidates for surgeons on both naval and merchant vessels, it having come to the knowledge of his majesty that unworthy and ignorant practitioners were usurping the places which should be filled by the skillful, thus exposing officers and men alike, when wounded or sick, to perish.

The fees for the examination of these surgeons were not startlingly large, being about \$1 for each candidate, to be divided between two examiners, that is, provided the vessel to be served were as large as 150 tons; if smaller, 60 cents was the fee, and any examiner who accepted more than his share of these honorariums was subject to a fine of 300 livres (\$60) and to be deprived of his commission.

The examination of assistant surgeons was in the same manner, but they were only allowed to pay half as much as their principals for their examination and certificate. The medicine chest of each surgeon was also subject to inspection by certain doctors and apothecaries nominated by the admiral for the purpose. Each visitor received 20 cents from the surgeon whose chest he had inspected. No ship carrying twenty men as a crew was to sail without a surgeon, unless engaged in coasting. As to ships, even those of fishermen engaged on long voyages, there must always be one or two doctors, at least, according to the length of voyage and number of the crew, so that for fifty men there must be at least one, and when the number exceeds fifty, at least two.

Minute and long directions were given in regard to victualing the vessels of his majesty's navy, some of which strongly imply that gross abuses had come to light, such as the placing of body servants on the payroll as sailors, the purchase of wines and delicacies, ostensibly for the sick, but really for the officers, the selling of victuals in foreign countries, false entries in buying or dealing out supplies, the embezzlement of some of the vast amount of firewood necessary to be taken for cooking and warming purposes, coal not having yet been discovered.

These old laws give a peculiar insight into the ways of people when the modern steel steamship was not even a dream. No doubt the sailors of those days were quite as brave and daring as any seamen now afloat. Tarry Jack is fast being superseded by the sooty fireman, the merry bo'sun by a man with a monkey-wrench. Your modern sailor scarcely gets his sea legs before he reaches the end of his voyage. Will the next century bring as great changes in our line? Who of us would not enjoy waking up a hundred years hence to see?

## America's Popular Canal Scheme.

Even the northwestern enthusiasts in Duluth, Superior, St. Paul and other places, who have begun an earnest movement in favor of a ship-canal outlet from the lakes to the Atlantic seaboard, will admit that the chances of passing any of the bills now before Congress for a survey over different routes are not assuring, but the action of the deep waterways convention in

Detroit calling for such a survey has attracted the attention of the whole country to the commerce of the lakes. It has been the means of bringing about a discussion of the subject that is remarkable mainly for the absence of any opposition to the project. It is a popular scheme, and unless the manner in which it has been received by leading engineers and newspapers is misleading it will, with the completion of works now under way on the lakes, surpass all other movements for cheap transportation in this country.

A recent issue of the Philadelphia Inquirer, discussing the subject editorially from the standpoint of its relation to that city, says: "If the proposition be carried out in its grand entirety, an immense amount of grain will be loaded on vessels at Duluth, Superior and Chicago, and be water-borne directly to Europe, or else to New York and Atlantic ports, without touching any of the railroads which would bring it to Philadelphia, while a corresponding amount of imports for the west would be carried back over the same cheap and convenient route. It looks as if the proposed waterway would 'side-track' this city more than any other enterprise has done since the Erie canal was built, and while this city would not seek to hinder such a great national improvement on that account, it naturally feels some apprehension over it. But perhaps the danger is more apparent than real. Canals do not always hurt the railroads with which they compete. The operations of the Erie canal have not injured the business of the New York Central road, nor has the Susquehanna canal, in our own state, proved a formidable rival to the Northern Central Railway. There is freight enough for both, and the canals take a great deal of bulky, unprofitable material which the railroads do not want if they can get anything better."

The New York Maritime Register makes the subject a basis for an able article on the canal question generally: "So much attention is given to the subject of ship canals and inland waterways," says the Register, "it is probable that within the next few years deep draught vessels will be carrying cargoes from the great lakes to the seas. If they can not come by way of the Erie canal then they will use the St. Lawrence river route. Big steamships will be built and loaded at lake ports and sent across the ocean. The lake exporters and shipbuilders will compete with their brethren of the coast, and the United States will lead the world in commerce. The wish may be father to this thought, but it is supported by those signs that even 'do not fail in fine weather,' the actual movement of trade."

## Detroit River Improvements.

In no part of the lake system during the past three years have vessels sustained more expense from going aground than at Grosse point and in a few shoal places between the city of Detroit and the mouth of the Detroit river. If the cost of tug hire, lightering and repairs to hulls resulting from accidents last season at Grosse point alone could be figured up it would be found to be enormous. It is encouraging, therefore, to find that in his annual report Gen. Poe makes a very earnest plea for improvements to overcome this difficulty. He says:

"As the improvement of other connecting channels of the great lakes begins to approach the 20-foot depth, which it is recognized that they should ultimately have, the annoyance to shipping at Grosse point flats must increase, and the necessity for a channel at this point is urgent. The number of vessels annually crossing these flats is enormous, and to insure a thoroughly satisfactory result a channel 800 feet wide and nearly  $5\frac{1}{2}$  miles long should be dredged and the full depth of 20 feet should be obtained at whatever cost. The commerce which passes this point already exceeds 20,000,000 tons annually, and steps can not be taken too soon for its accommodation. To accomplish valuable results a large appropriation will be required at first, and unless this be granted the results will be unsatisfactory and the eventual cost will be greatly increased. With \$300,000 available, a narrow channel of the proposed depth can be opened and will afford immediate though insufficient relief. The width can subsequently be increased to such an extent as may be necessary."

"The project for Lime Kilns' crossing having been completed, no further estimate is submitted for work at that point. Owing to the low water of the last few years, however, vessels have struck on a number of shoals in different parts of the river, and, in view of the magnitude of the commerce affected, all such shoals should be removed as soon as possible. An estimate of \$50,000 is therefore made for the removal of the more serious of these shoals between the city of Detroit and Lake Erie."



### Around the Lakes.

There is talk of holding the annual meeting of the Inland Lloyds, at Buffalo, March 1.

Capt. John Foster died at Chicago recently, aged 62 years. He came from Wales, and long was a lake master.

Mr. J. A. Farrell of Buffalo was in Cleveland during the week. He is on a business trip to several lake ports.

Trudo & Smith of Bay City have sold to Mather Brothers the small passenger steamer C. A. Forbes for \$3,000.

President Harrison has appointed E. D. Howard to succeed the late Col. Osborne, as collector of customs in the Marquette district.

There is talk of F. W. Wheeler & Co. constructing in connection with their West Bay City ship building plant an iron foundry of large proportions.

It is very probable that the name of the steamer Kasota, now rebuilding in the big dock of the Detroit Dry Dock Company, will be changed to A. A. Parker.

Capt. Frank Brown, who sailed the schooner Emma C. Hutchinson during the past two seasons, will hereafter look after the fuel business of Pickands, Mather & Co. in Cleveland.

Macon & Co., 237 Bank street, Cleveland, have received orders to cover with Magnesia sectional covering boilers, steam pipes, etc., on the steamers Cumberland, W. H. Gilcher, R. E. Schuck and C. H. Green.

A movement is on foot to establish a harbor of refuge at Cape Vincent, Lake Ontario. An appropriation of \$50,000 is wanted to begin the construction of a breakwater, which could be extended from year to year.

A recent order from Capt. L. G. Shepard, acting chief of the revenue marine, details Second Lieut. John C. Moore from the revenue cutter Grant to act as assistant to the inspector of life-saving stations Nos. 9 and 10 on the lakes, relieving Lieut. R. W. Clark.

Capt. John Jenkins of the steamer Newaygo and Miss Helen Anderson, daughter of Alexander Anderson, Marine City ship-builder, were married on the 17th inst. and spent a few days of this week at the home of John Wedow of Mitchell & Co., Cleveland.

Capt. P. Kerwin of Port Huron has sold the schooner Sligo to the Thomson Lumber Company of Windsor on private terms. The propeller Canada has been sold by Capt. Fairgraves of Hamilton to John Nesbit, and will be used for towing coal barges from Toledo to Point Edward.

Mr. Whitney, who has been chief engineer of the Lehigh Valley line, Buffalo for some time past, will again be in charge of the machinery of this line during the coming season. He reconsidered an intention of giving his services to the Western Electrical Company of Chicago.

William A. Forbes, financial and recording secretary of lodge No. 1, Buffalo, Shipmasters' Benevolent Association, says in a letter to the REVIEW: "Enclosed find \$2.00 for a year's subscription. We think your paper a very valuable publication and one which everybody connected with marine business should take."

Detroit vessel masters are again agitating the matter of Canadian officers on American lake vessels. The broad claim is repeated that Canadians secure citizenship papers in the United States for the purpose of sailing American vessels but hold residence in Canada. It is said that an appeal will be made to President Harrison on the subject.

As usual the annual ball and banquet of the Marine Engineers' Beneficial Association, No. 2 of Cleveland, held at Halthorn's hall last Friday evening, was a most enjoyable affair. The attendance was very large and the several committees in charge of the arrangements are deserving of praise for their efforts. It was the eleventh social gathering of the Cleveland branch.

An effort to form an association of river tugs has fallen through. Many of the owners who were relied on by the promoters of the scheme to make it go have business enough of their own to keep their tugs busy during the whole or part of the season. This business they would have to divide up with the other members of the association, hence their refusal to join it.—Exchange.

The New York court of appeals, second division, held, in the recent case of Reck vs. Phoenix Insurance Company, that in a marine insurance policy, containing a warranty that the insured vessel should not load more than her registered tonnage the term "registered tonnage" referred to the vessel's carrying capacity as stated in the ship's papers under which she was sailing at the date of the policy.

C. P. Conger, who is the law partner of his father Ex-Senator Conger of Michigan, and who is attorney at Washington of the Lake Carriers' Association, suggests that the lake shipbuilders probably could be allowed to compete with the coast builders in the construction of government ships if the government should pledge its faith to England that any such ships built on the lakes would be kept entirely independent of the present naval force on the lakes, and that until the 1812 treaty was declared abrogated such naval force should not be increased.

A model of one of the powerful seagoing tugs will be one of the features of the marine exhibit at the World's Columbian Exposition. Those employed on the Atlantic coast have generally been considered the largest in the United States, but there has recently been built at the Union Works in San Francisco what is conceded to be the largest, strongest and most expensively fitted tug in this country if not in the world. She is named the Fearless and was ordered by the Spreckels Bros. for the Oceanic Steamship Company. Her register is 365 tons, her engine develops 1,200 horse power and her speed is 16 knots an hour.

Edward Smith of Brown & Co., Buffalo vessel agents, has been appointed manager of the steel steamer E. P. Weed, the steamer J. C. Pringle and consorts Sweetheart, Harrison, and Sunshine, of the Hollister Transportation Company's fleet. C. H. Woodruff will act as treasurer of the company. Mr. Woodruff heretofore has had more work to look after than one man could attend to properly, and Mr. Smith is in position to take good care of the charters for the vessels. The Hollister Brothers are principal owners of the big steel steamer being built by Wheeler at West Bay City. Capt. A. Wolvin, vessel agent of Duluth, who has an interest in the ship, probably will be her manager.

A very large portion of the business of the American Ship Windlass Company of Providence, R. I., is done on the lakes. This is one eastern concern that gives special attention to keeping thoroughly posted on contracts of new vessels in all parts of the lakes. A representative who was in Cleveland a short time ago was as familiar with the work under way in the different lake shipyards as the managers of the yards. The result is a steady increase in the business of the company. The latest addition to its plant is a solidly constructed shop 112x64 feet, which will be used for erecting heavy work. This company is now making fifteen windlasses for various cities on the lakes, as well as for the New York and cruisers No. 12 and No. 13, now being constructed by Cramp & Sons; the second named is planned to be the fastest war vessel afloat. They are also making windlasses for the battle-ships Massachusetts and Indiana, and for the United States monitor Amphitrite.

The plan of shipping soft coal from the Hocking valley in Ohio through Michigan and across Lake Michigan to Wisconsin is again being talked of. It is reported that at a recent meeting of the directors of the Toledo, Ann Arbor & West Michigan Railroad Company it was decided to build four large steel tow barges, so designed that railroad cars may be run onto them and transported across the lake. Each barge will have four tracks and each track will hold six cars, making the total capacity of each barge twenty-four cars. A powerful steel tug capable of keeping a channel open all winter, will, according to the details of the scheme, tow the barges across Lake Michigan, between Frankfort and Keewaunee. The Columbus, Hocking Valley & Toledo Railway already turns over large quantities of coal to the Toledo, Ann Arbor & Northern Michigan, and the trade would undoubtedly be very much increased if these plans are carried out.

### Fifty-Second Congress—First Session.

The following bills of interest to lake vessel owners have been introduced in Congress recently:

H. R. 6,225, Caldwell—For a survey for a route for a ship canal to connect the waters of Lake Erie and the Ohio river.

H. R. 6,008, Campbell—For the benefit of the officers of the United States revenue cutter service.



### Gas Buoys.

Secretary Coffin of the light-house board some time ago promised lake vessel owners that he would use his influence with the board to have three or four gas buoys used to mark dangerous places in connecting waterways. This was shortly after the last Congress had made an appropriation for gas buoys, but it seems that this appropriation was insufficient to cover all that had been expected of it. In its annual report the board again refers to gas buoys.

"The buoy used," says the report, "is of the Pintsch pattern and patent. It is forged by a secret process without seam and holds compressed gas without perceptible loss, which burns with a steady flame and which is rarely extinguished from any cause, making a useful light. The gas buoy is sometimes used to replace temporarily, a light-ship while the latter is under repair. It is sometimes used where a light-ship can not be moored. A dangerous wreck in an important channel leading into New York had to be marked, and as the channel was too narrow to admit of a lightship being placed near the wreck, a Pintsch gas buoy was used there satisfactorily, to the great advantage of shipping, for a considerable length of time and until the wreck had disappeared. The board last year placed a lighted gas buoy in the fairway of vessels going north and south, near to the wrecks of the steamer Vizcaya and the schooner Hargraves, off Barnegat light on the New Jersey seacoast, where it served to keep vessels from running on to these wrecks. The appropriation of \$30,000 for gas buoys, made by the act approved on March 3, 1891, limited the board to the payment of not exceeding \$2,000 each for gas buoys. This provision precluded the purchase of many of the larger class. The size of the buoy, which the Board has used so successfully for the past six or seven years, weighs about 6,000 pounds and costs about \$2,000 on the other side of the Atlantic, where only it is made. The duty upon it is about 45 per cent. ad valorem. That amount, with the freight, will make each buoy cost about \$3,000 delivered at the general light-house depot. Ten more of these buoys are needed. The board estimates that they will cost \$30,000, and it is recommended that an appropriation of this amount be made for that purpose."

### Power of Side Lights.

While the International Marine Congress was in session in Washington in 1889 the question was raised as to the proper power of the running lights used by vessels of the merchant marine. No agreement could be reached, as the congress was without accurate knowledge as to intensity of the lights proposed. It had been decided that the side lights of a vessel under way, which should be red on one side and green on the other, ought to be sufficiently powerful to be seen 2 miles, while the white top lights should be seen 5 miles. The light-house board was formally requested to ascertain the intensity of the proposed lights by actual experiment. The board appointed a committee,

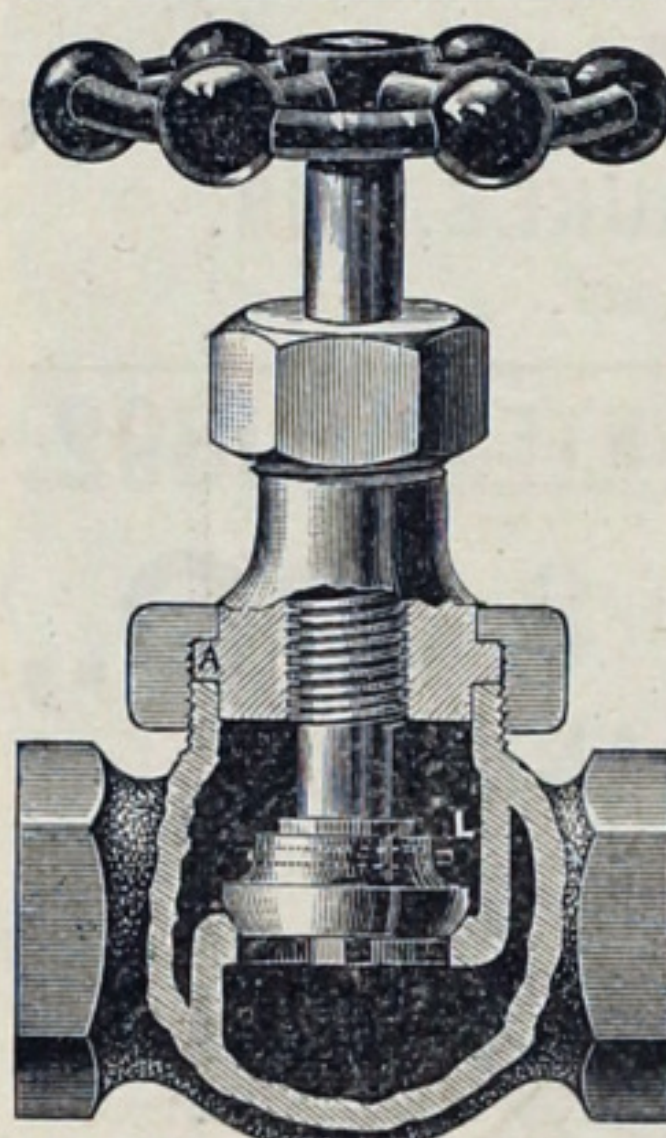
consisting of two of its inspectors, two of its engineers, with one of its own members as chairman, to do this work. This committee has acted on the matter and its report is presented as a part of the annual report of the board. Stating the matter in brief, it appears, that to be practically seen in fairly clear weather for 5 miles, a white light must have an intensity of thirty candle power, and that red and green lights to be seen 2 miles must each have a power of forty candles.

### New Electrical Plant.

The electric lighting plant which Mr. Harvey H. Brown of Cleveland had installed on the steamer Castalia when she was completed did not operate to his satisfaction, and last week Mr. Brown contracted with the Fisher Electric Company of Detroit to remove the old plant and install on the steamer a complete plant including all the latest improvements made by the Fisher company—automatic signal lights and a number of new fixtures and other appliances.

Mr. A. W. Colton, managing owner of the steamer Reynolds, has contracted with the Fisher Electric Company to equip that steamer with a complete incandescent lighting plant. The Reynolds is a good freight boat and the application of an incandescent lighting plant to her present equipment places her in the best class of steamers. The equipment will include automatic signal lights and automatic dynamos, and the system will be so arranged that the engineer controls all parts of the boat from the engine room. New fixtures and portable lamps will also be supplied.

UNITED STATES ENGINEER OFFICE, 34 West Congress street, Detroit, Mich., Jan. 19, 1892. Sealed proposals, in triplicate, will be received at this office until 2 o'clock, p. m., March 4, 1892, and then opened: For furnishing Twelve Valve Frames and Fourteen Valves for the 800-foot Lock at St. Mary's Falls Canal, Michigan. Preference will be given to material of domestic production or manufacture, conditions of quality and price (import duties included) being equal. Attention is invited to Acts of Congress, approved Feb. 26, 1885, and Feb. 23, 1887, vol. 23, page 332, and vol. 24, page 414. Statutes at Large. The Government reserves the right to reject any or all proposals; also, to waive any informalities. For further information apply at this office. O. M. POE, Colonel, Corps of Engineers, Bvt. Brig. General, U. S. A.



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FIG. 200, SECTIONAL.

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The new town of Kenova, W. Va., offers many advantages for the location of manufacturing establishments; also the territory opened up by the Norfolk & Western Railroad on the North bank of the Ohio River, between Kenova, W. Va., and Portsmouth, Ohio. For the manufacture of finished iron articles the district offers unequalled advantages, with supply of Coal and Pocahontas Coke on short hauls, and with the blast furnaces of the Iron-ton, Hanging Rock and Ashland district in close proximity. Favorable freight rates made upon raw materials to all manufacturing establishments on this line. For further information as to freight rates, maps, names of parties to whom application should be made for coal leases, etc., apply to

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Space under this heading may be used gratis by our advertisers or subscribers to call attention to vessels or any craft, machinery, new or second hand, that they may have for sale. Those wanting machinery of any kind, or wishing to purchase vessels, are invited to take advantage of the same offer. Each item will be limited to three lines. Letters concerning same must mention number attached to item and be addressed MARINE REVIEW, 510 Perry-Payne Building, Cleveland, O.

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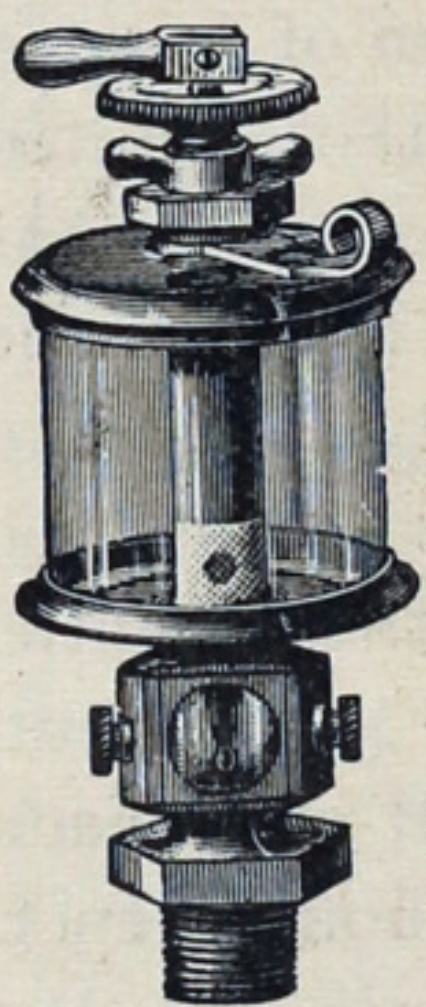
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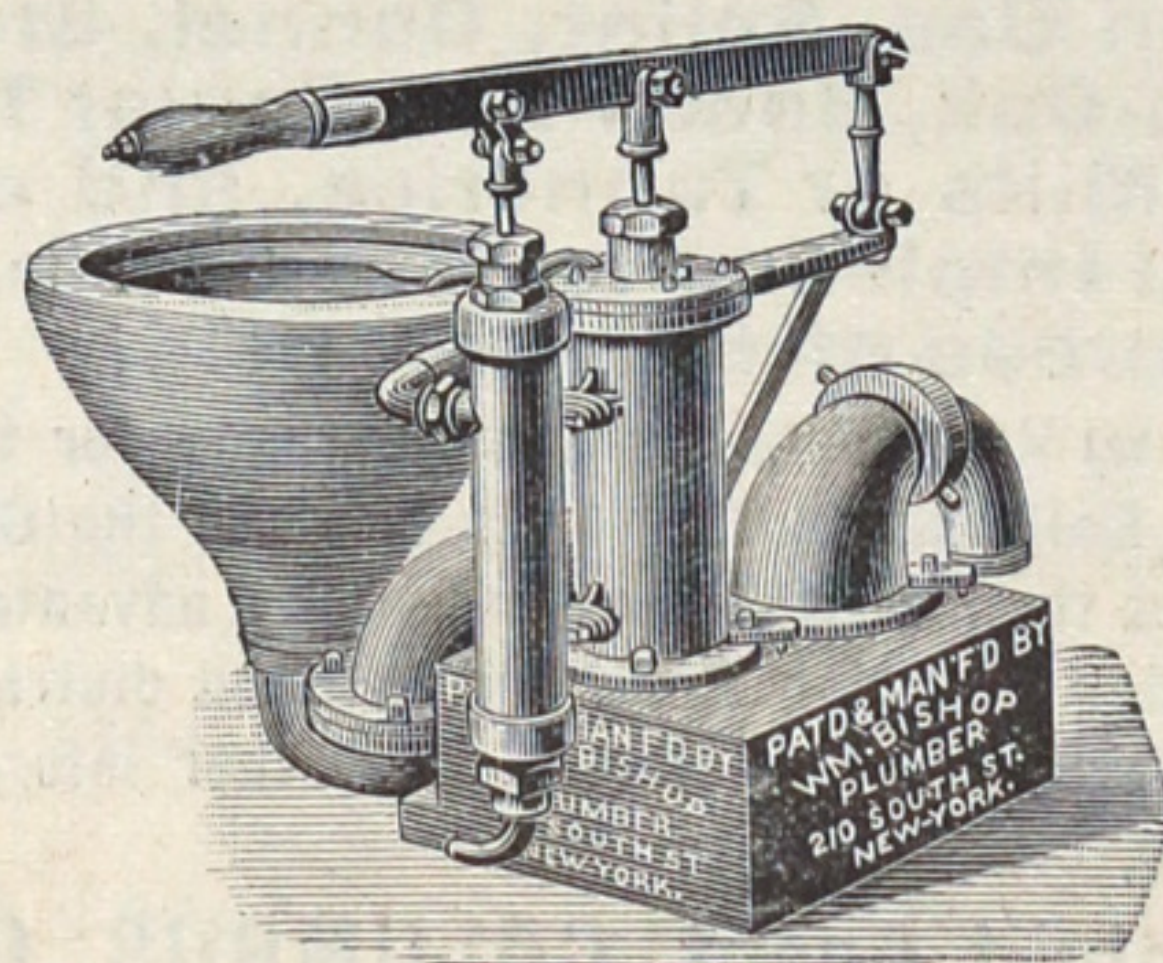
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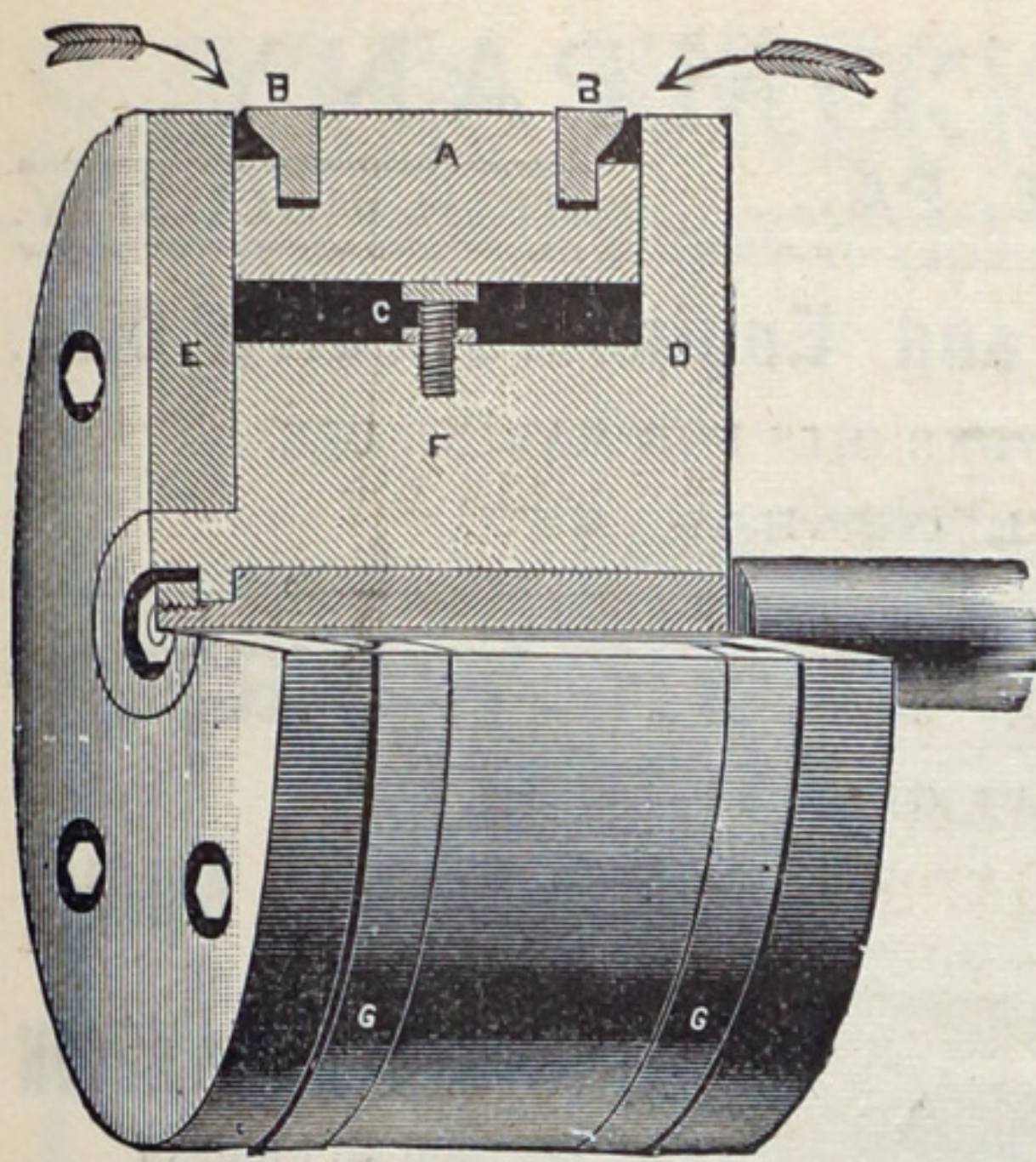
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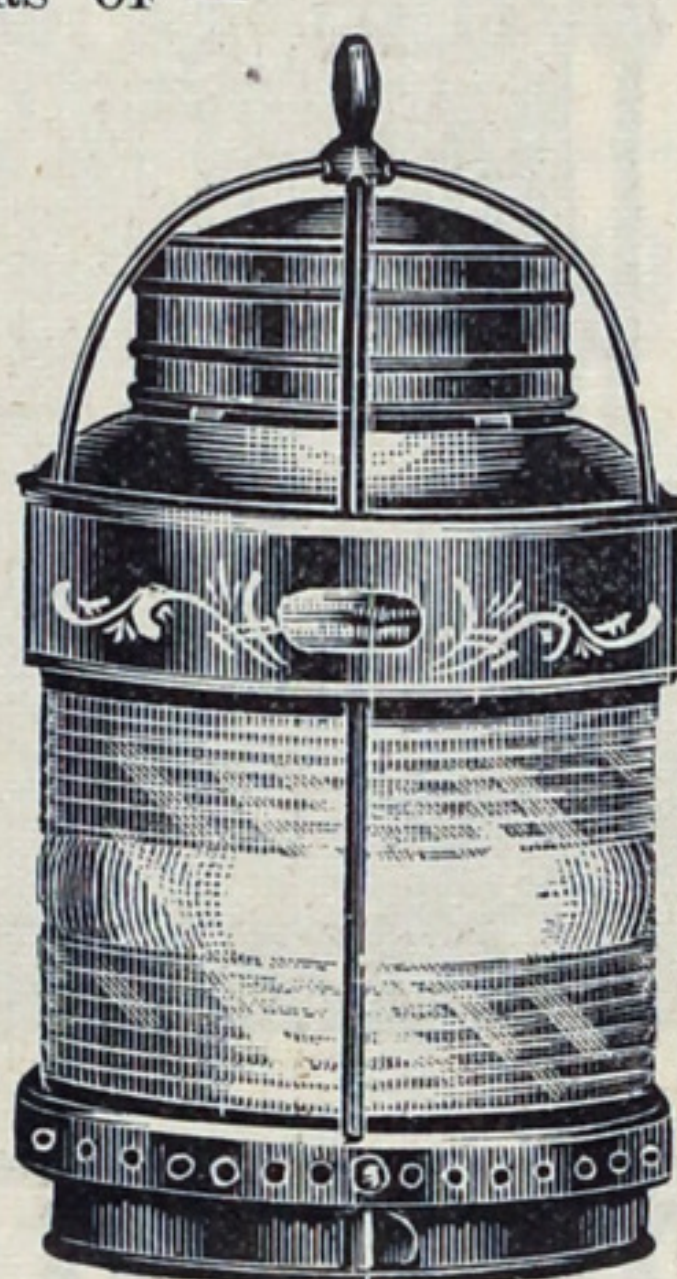
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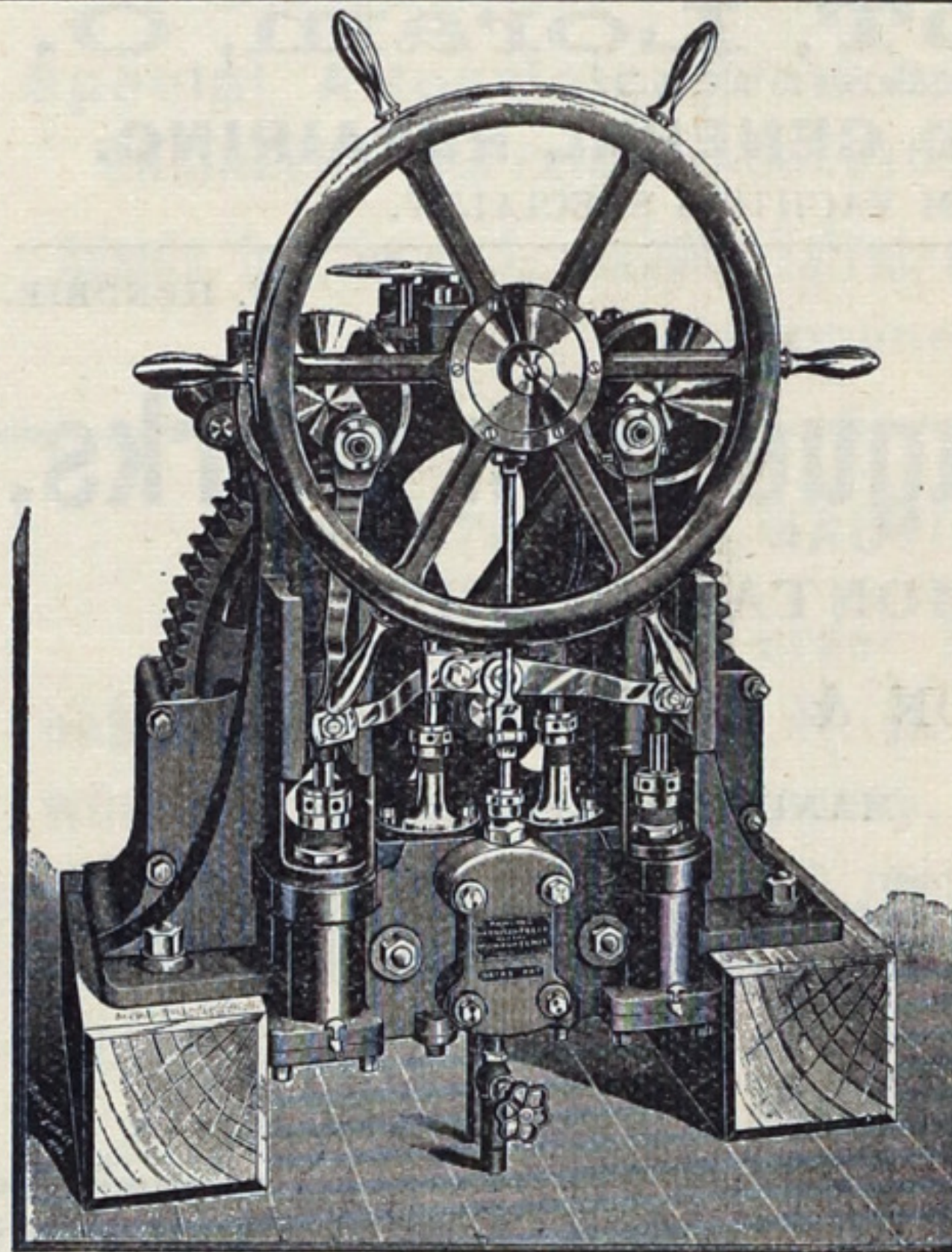
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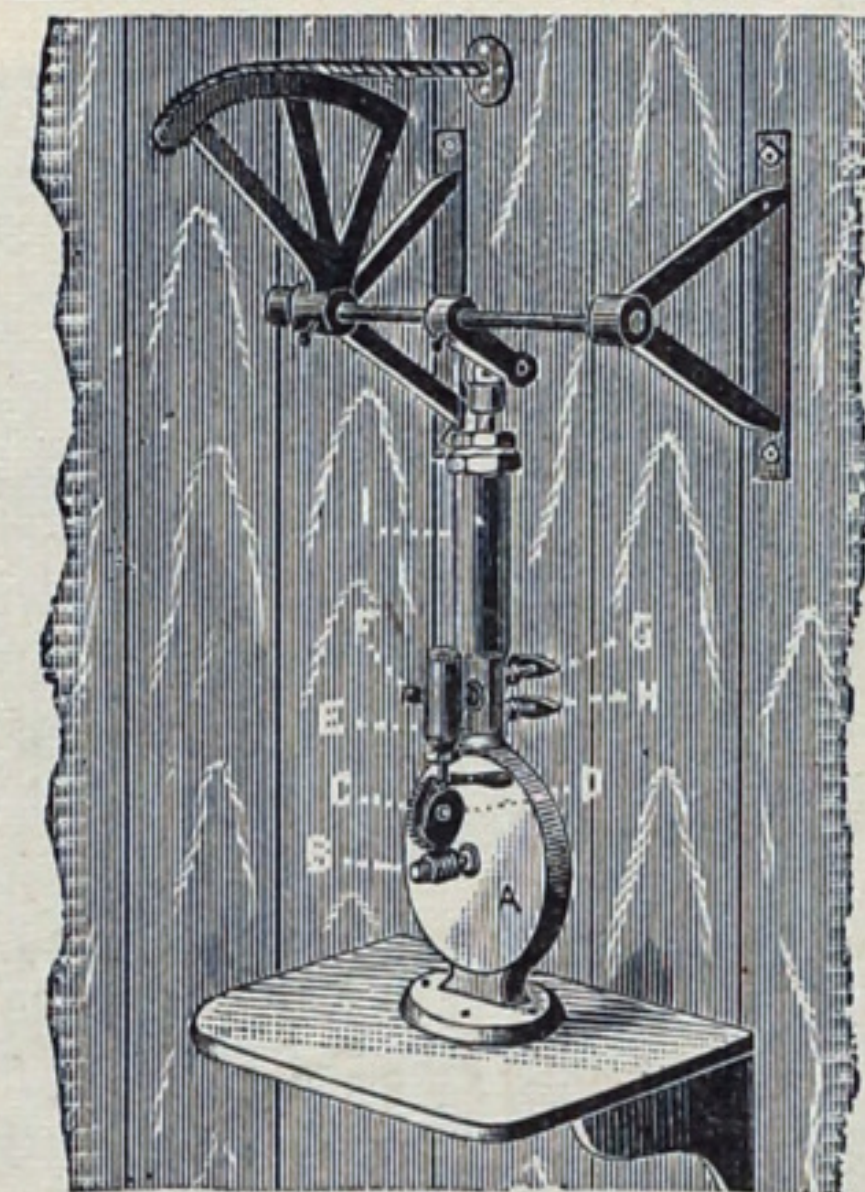
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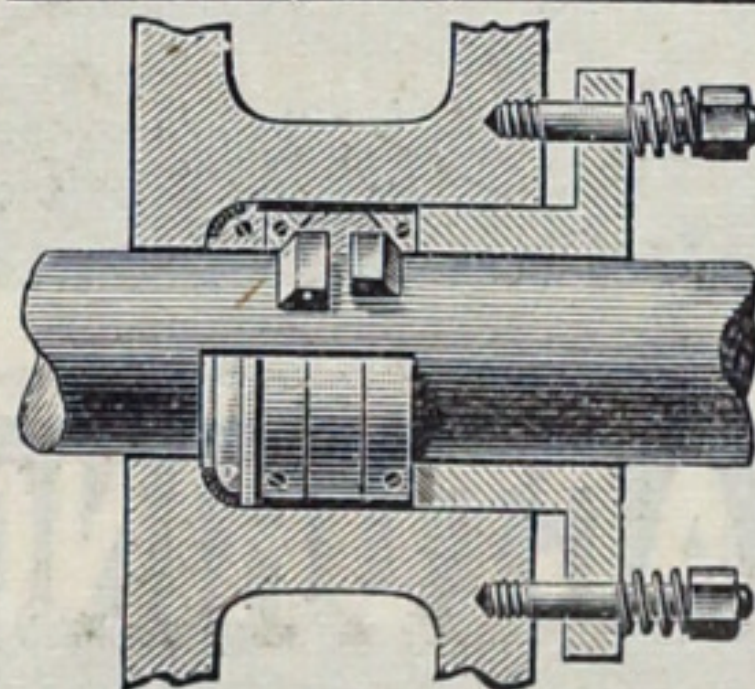
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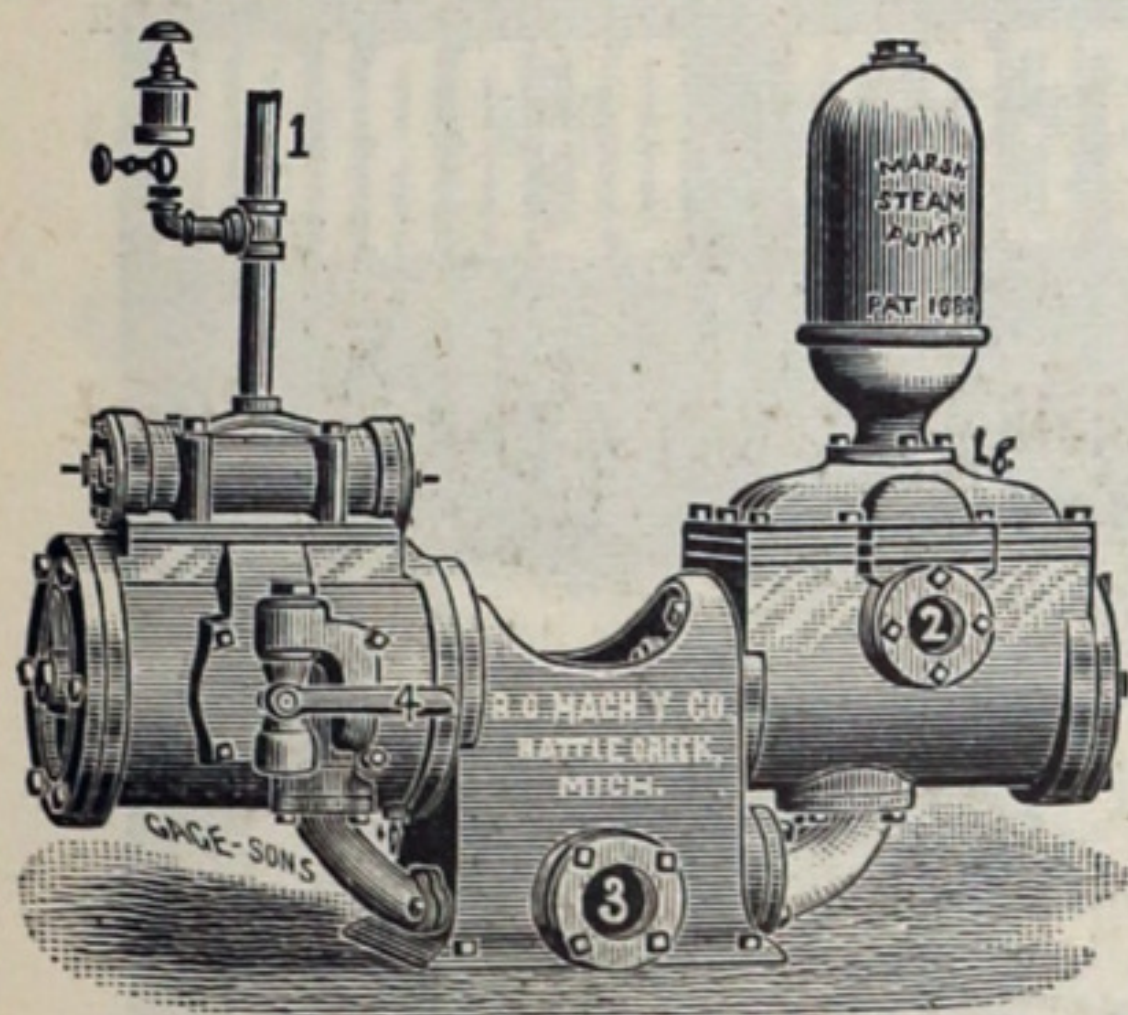
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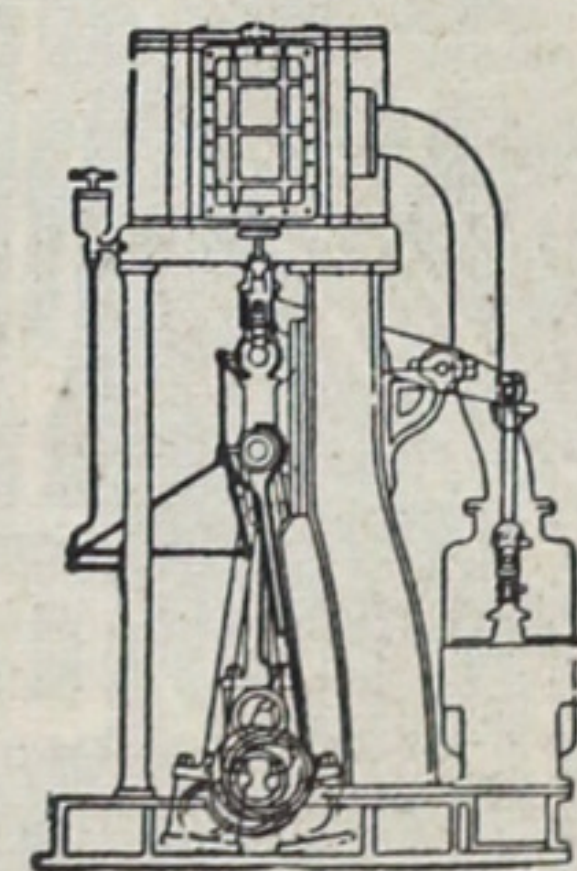
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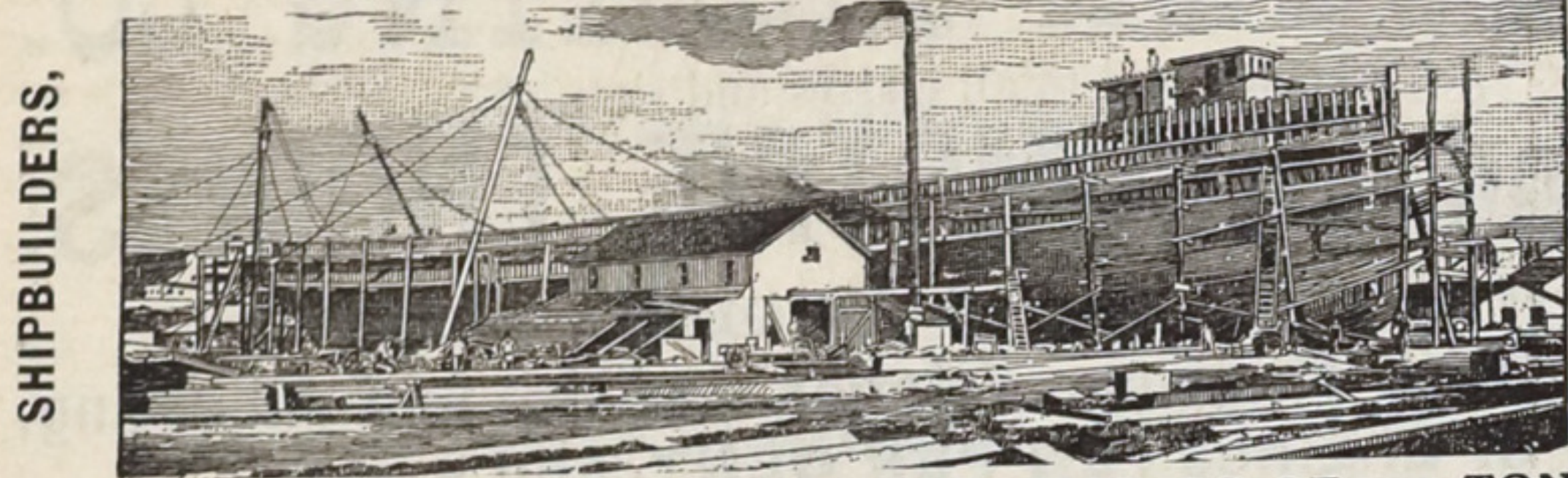
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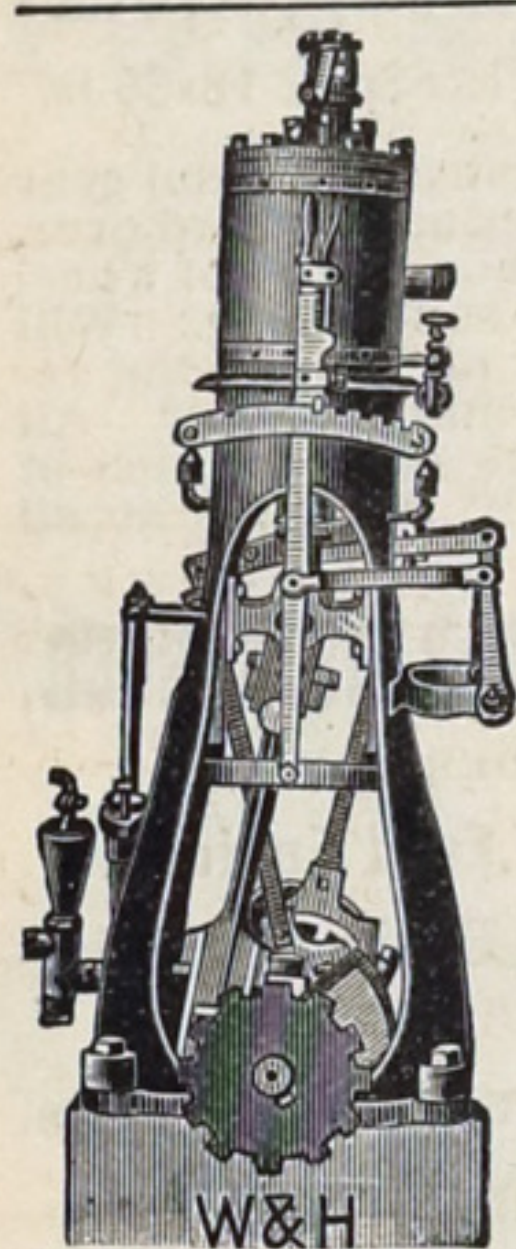


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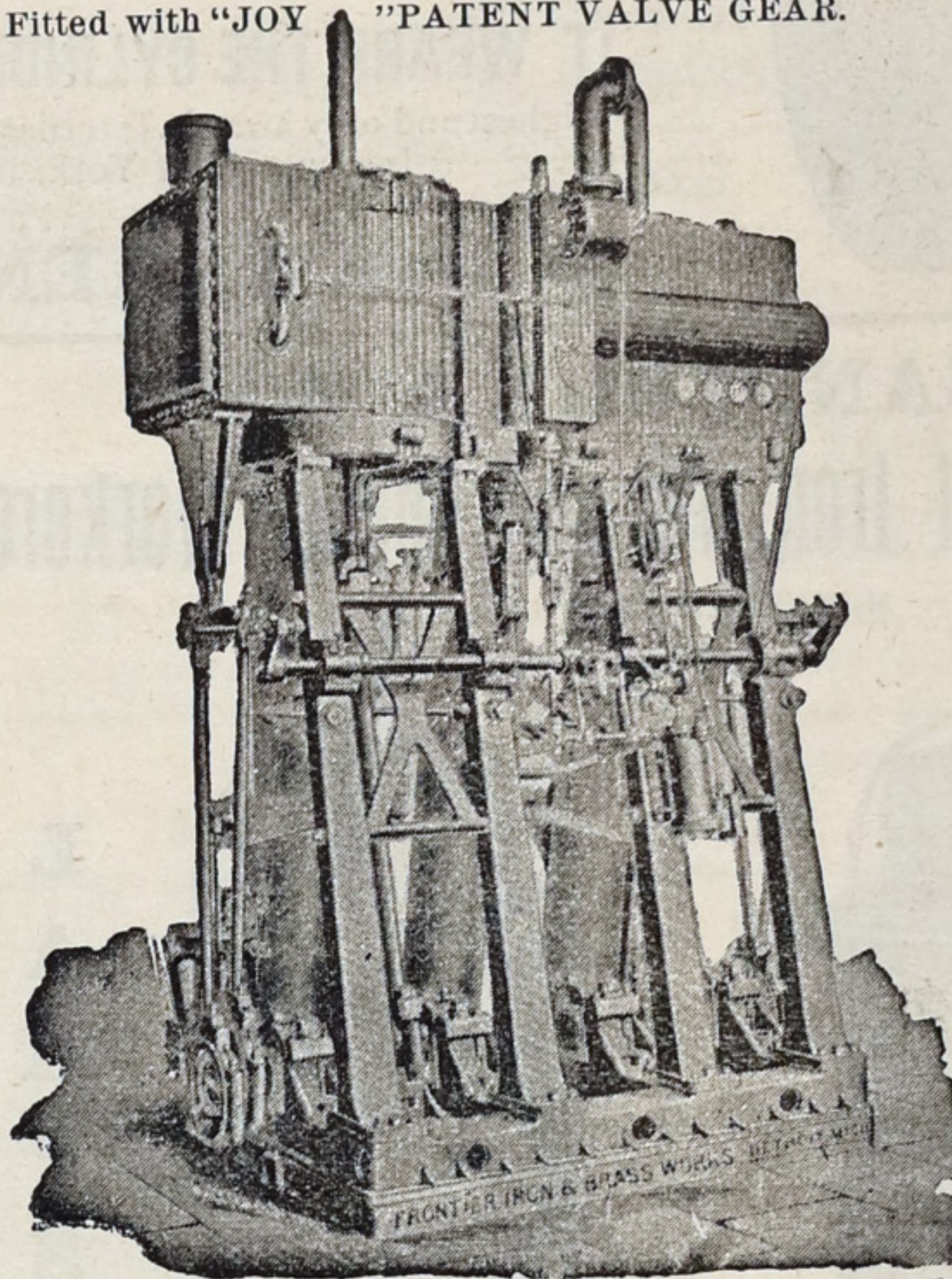
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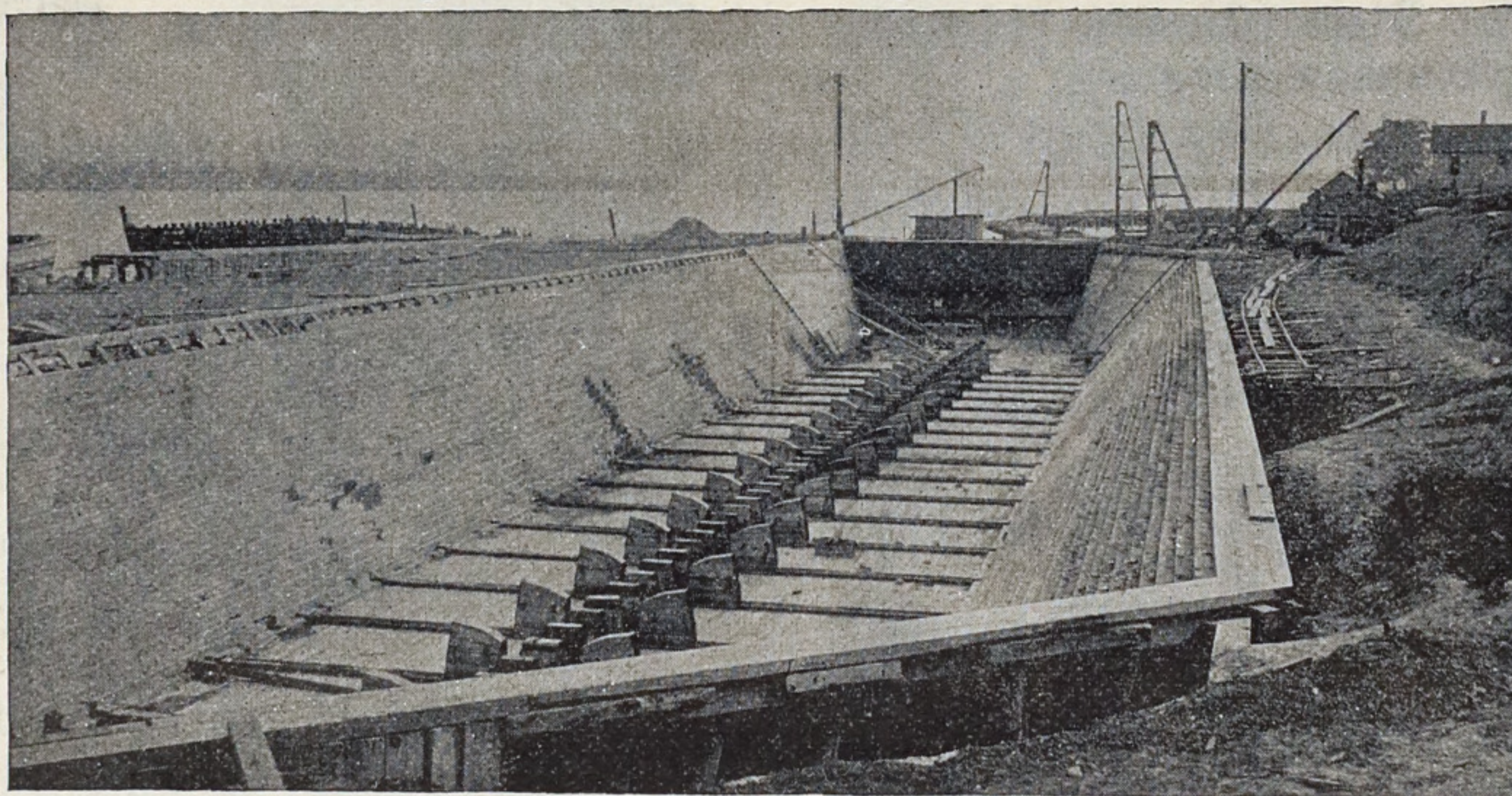
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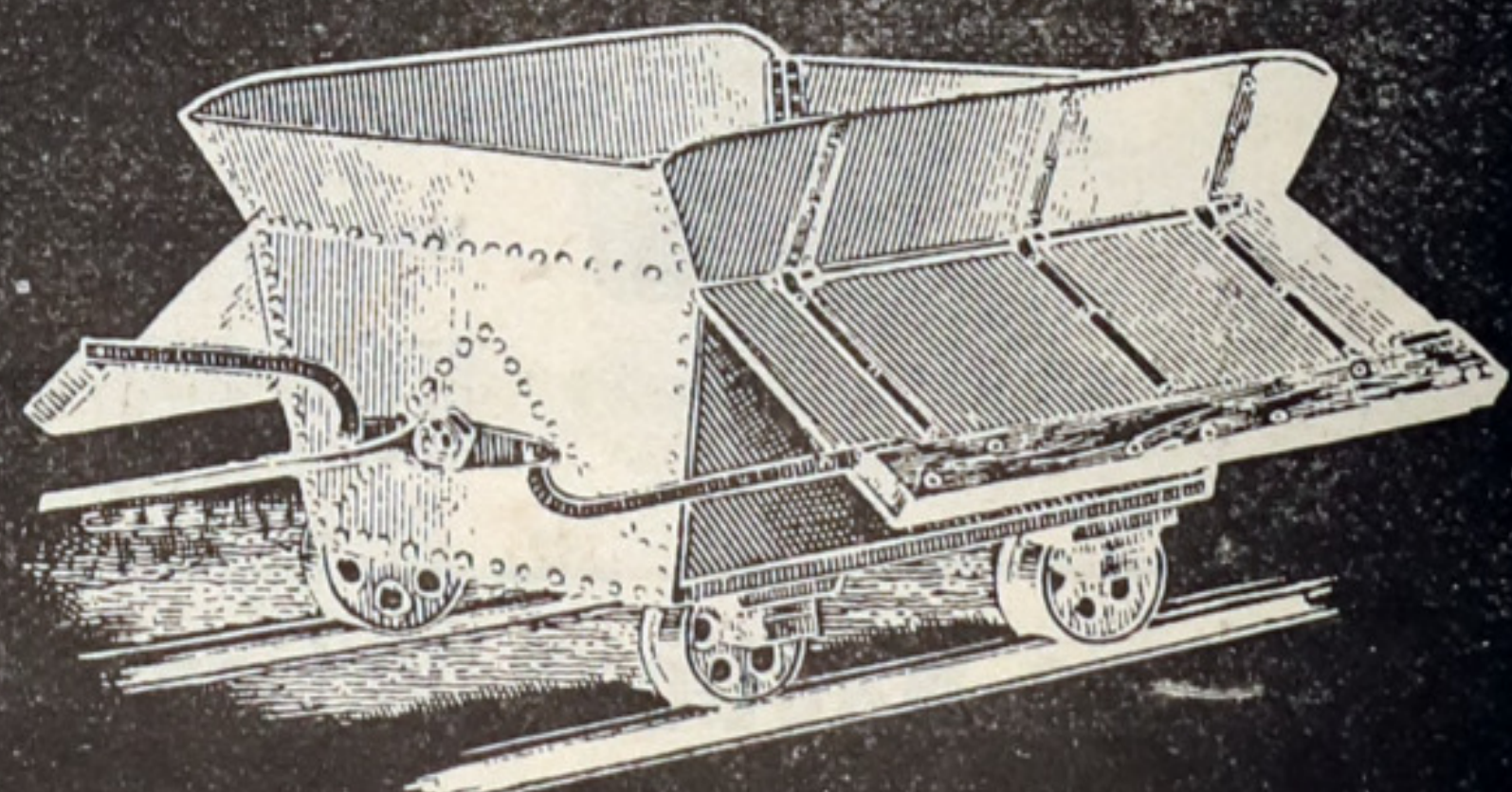
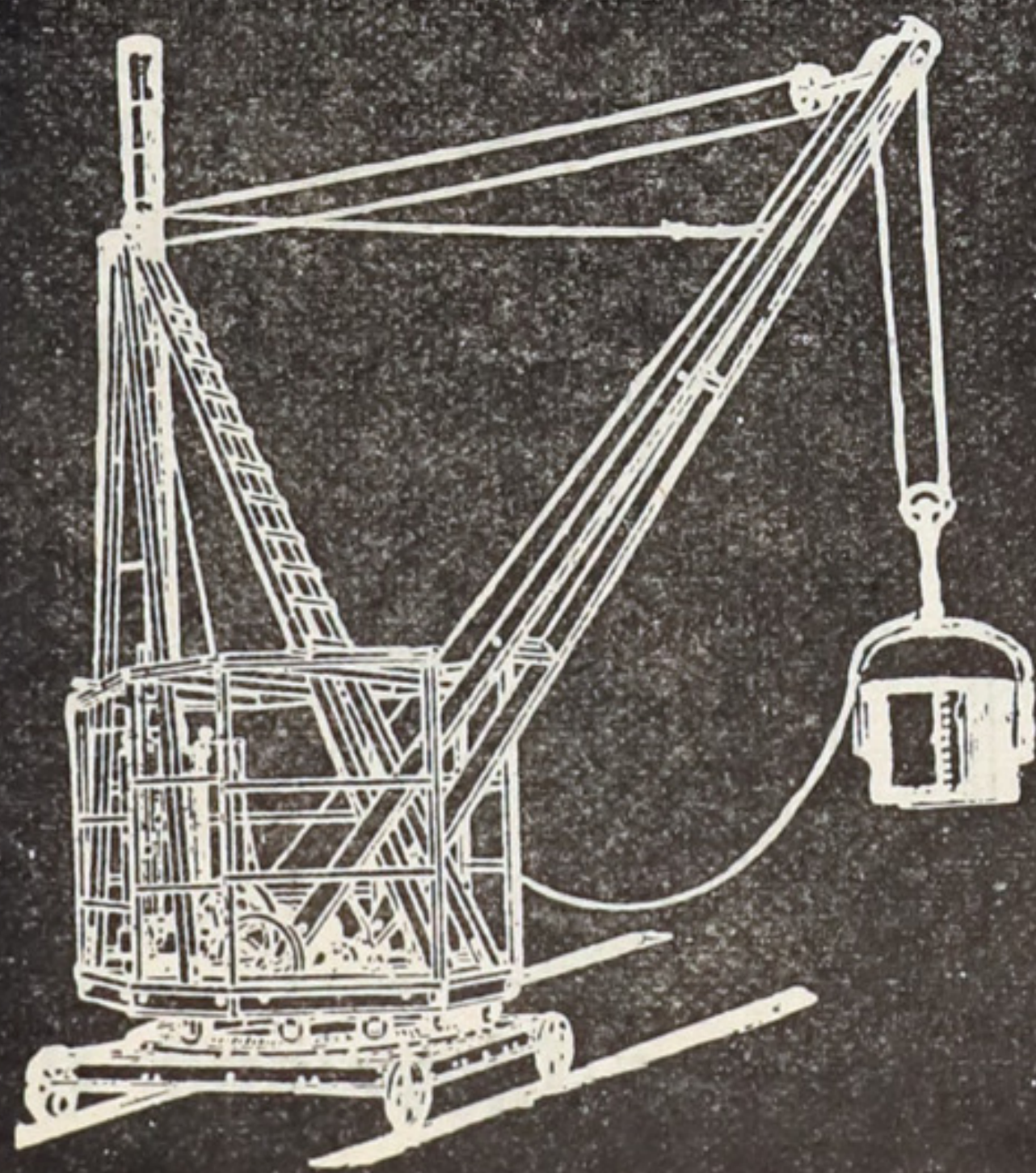
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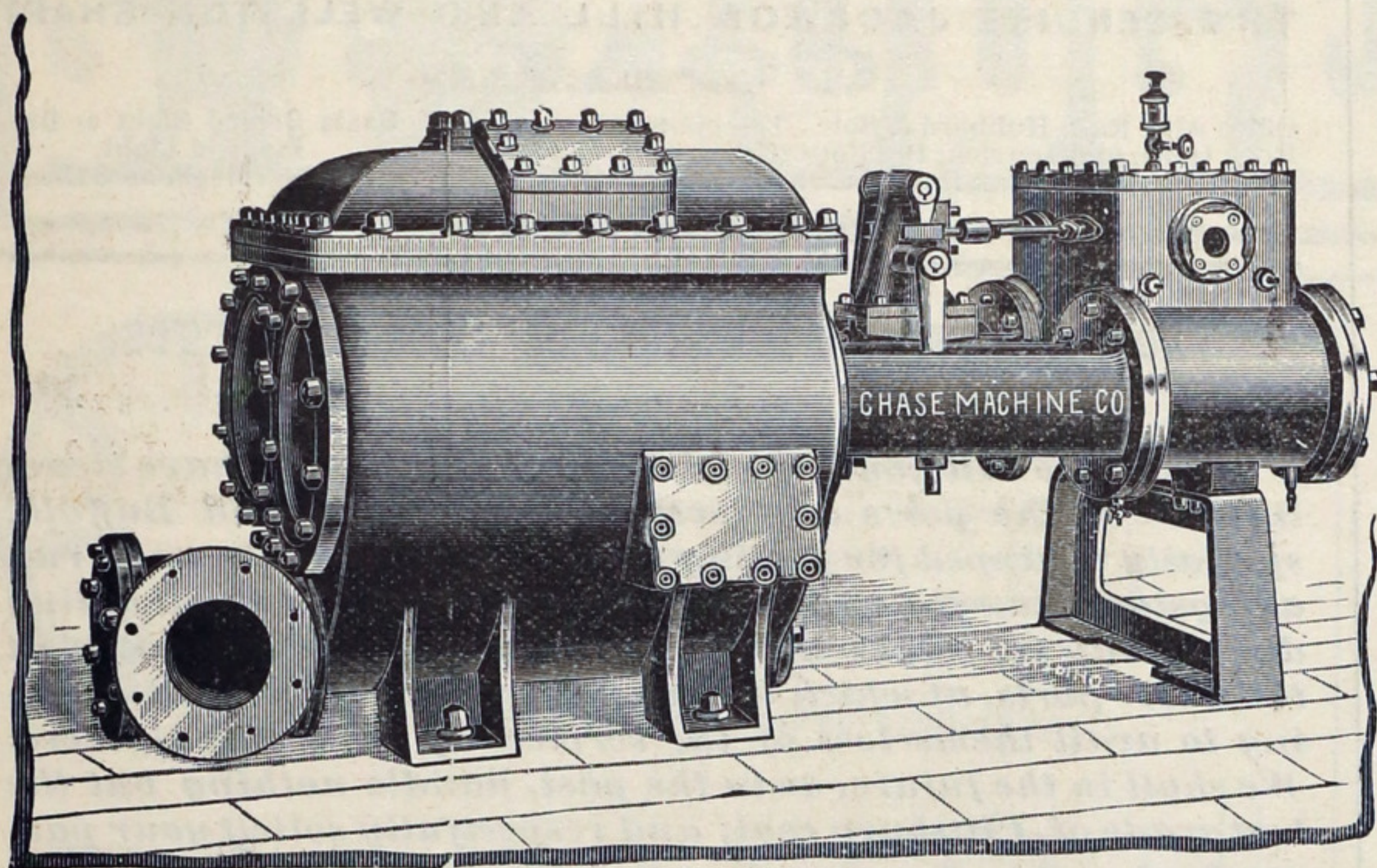
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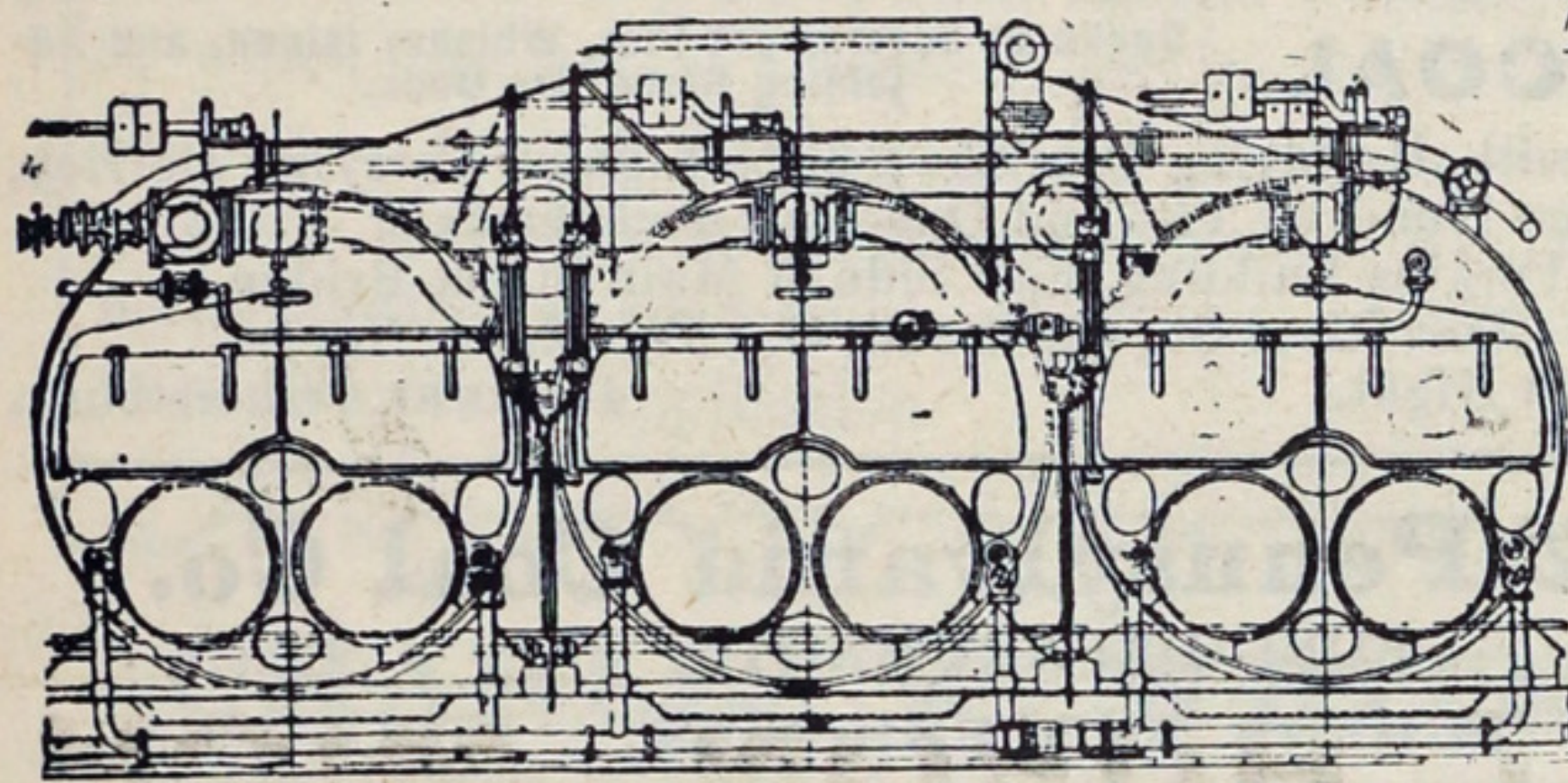
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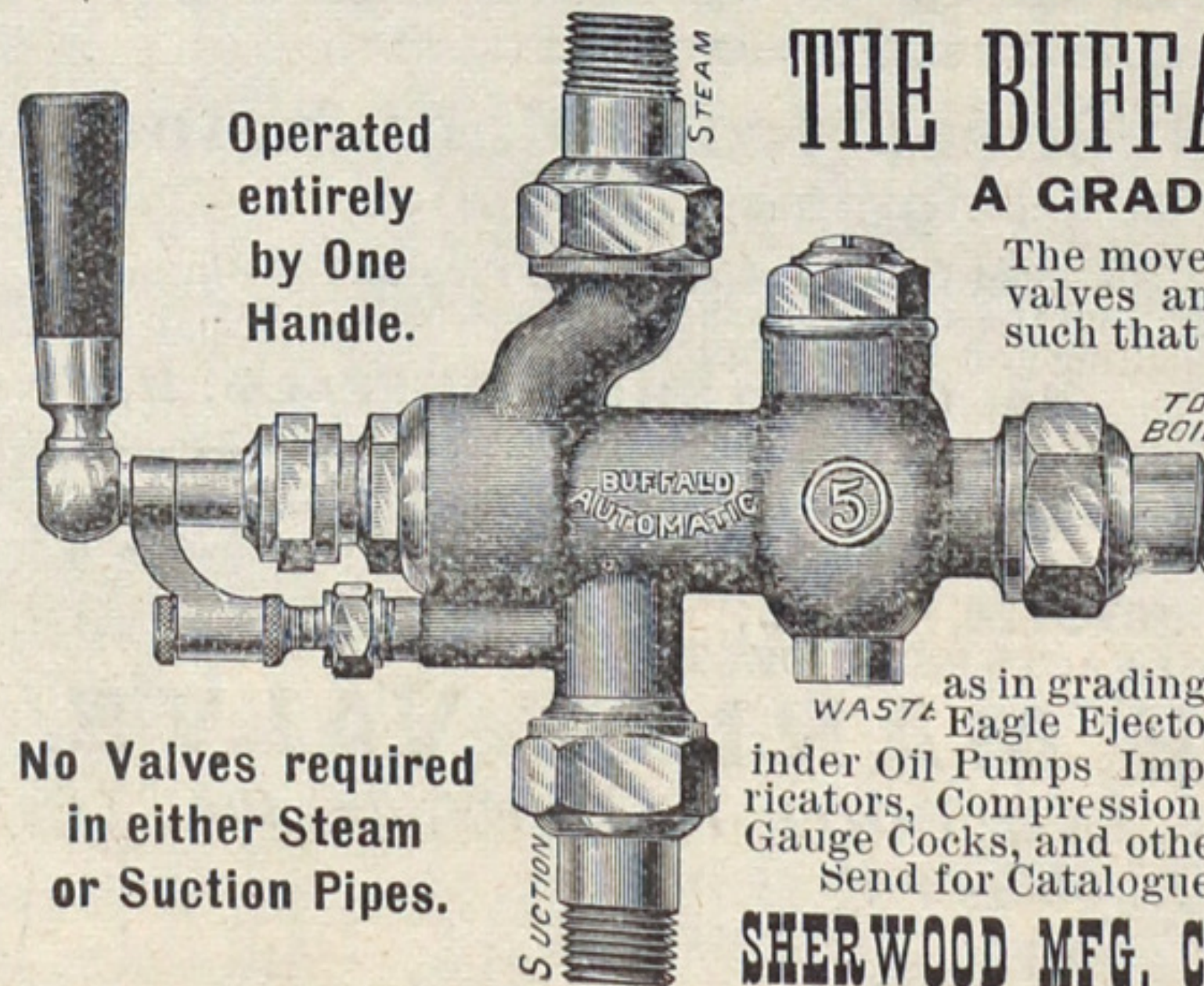
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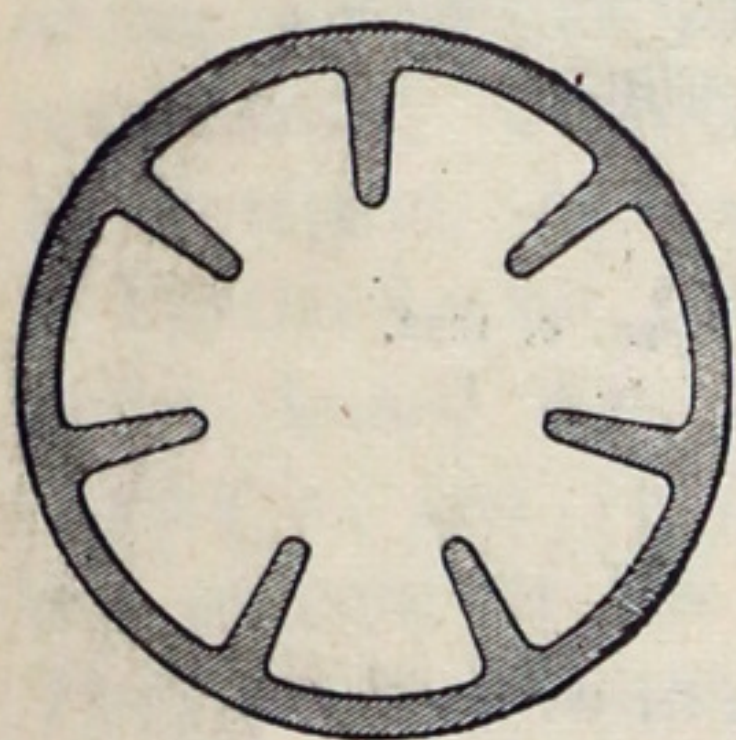
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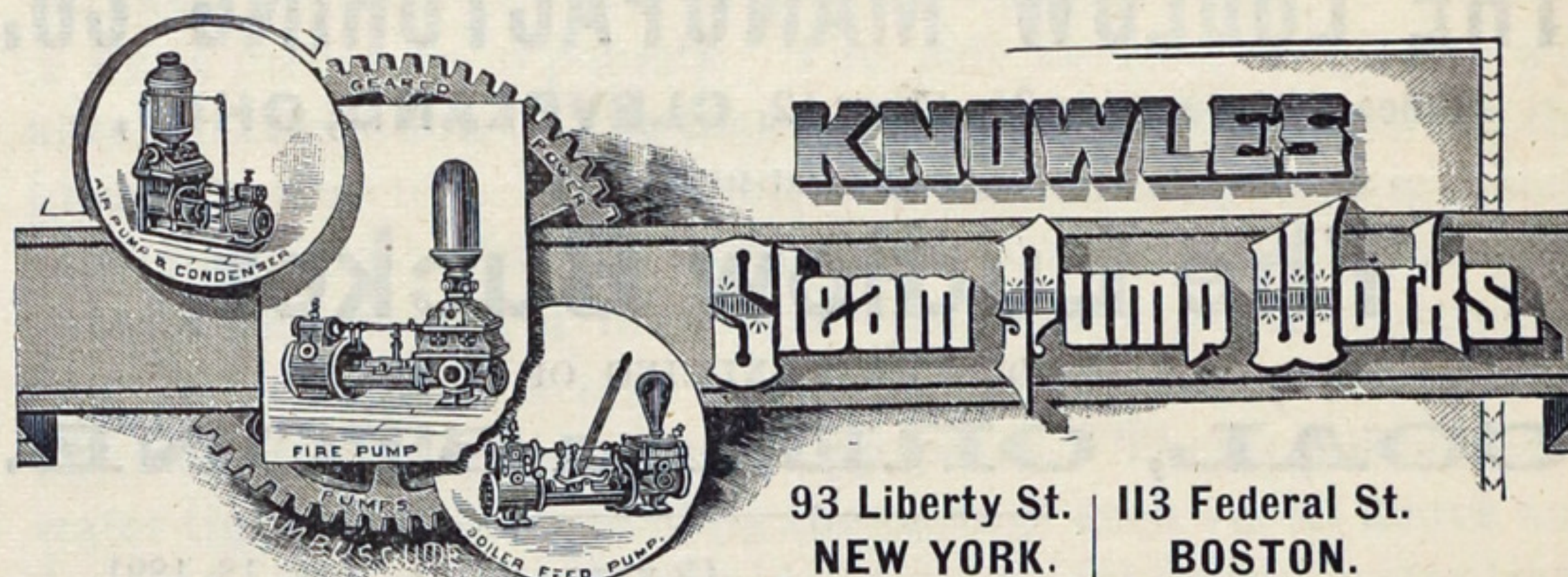
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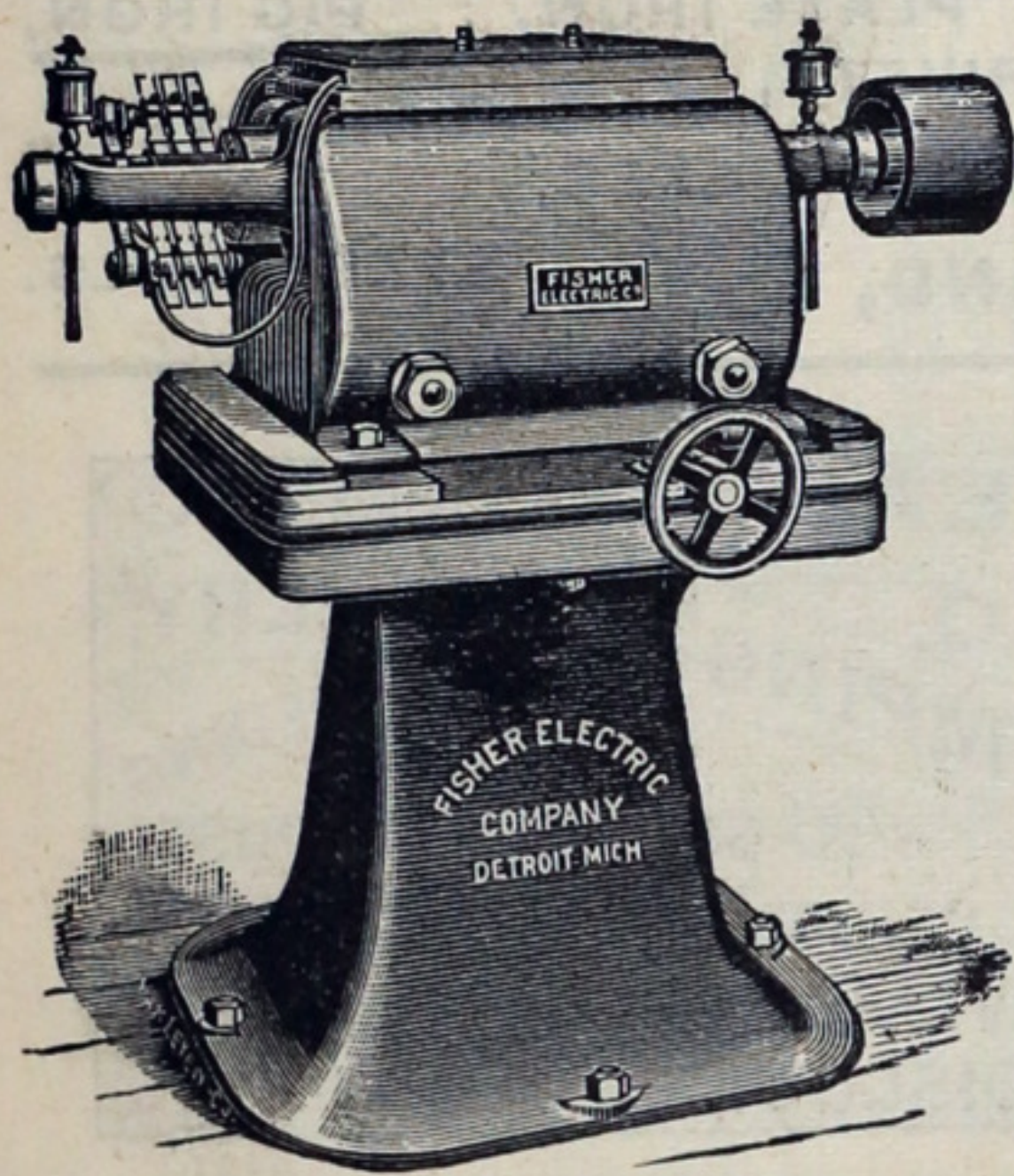
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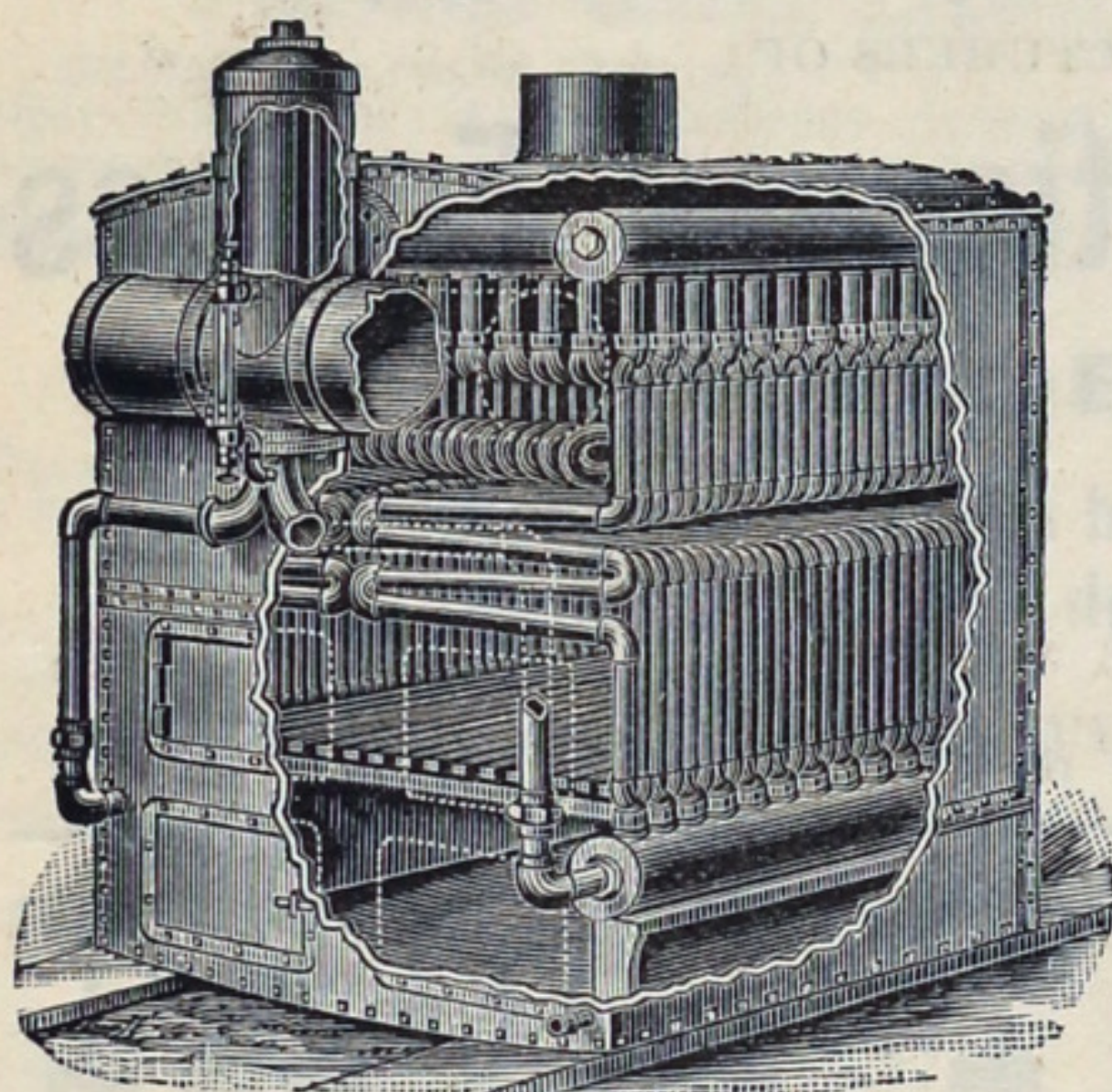
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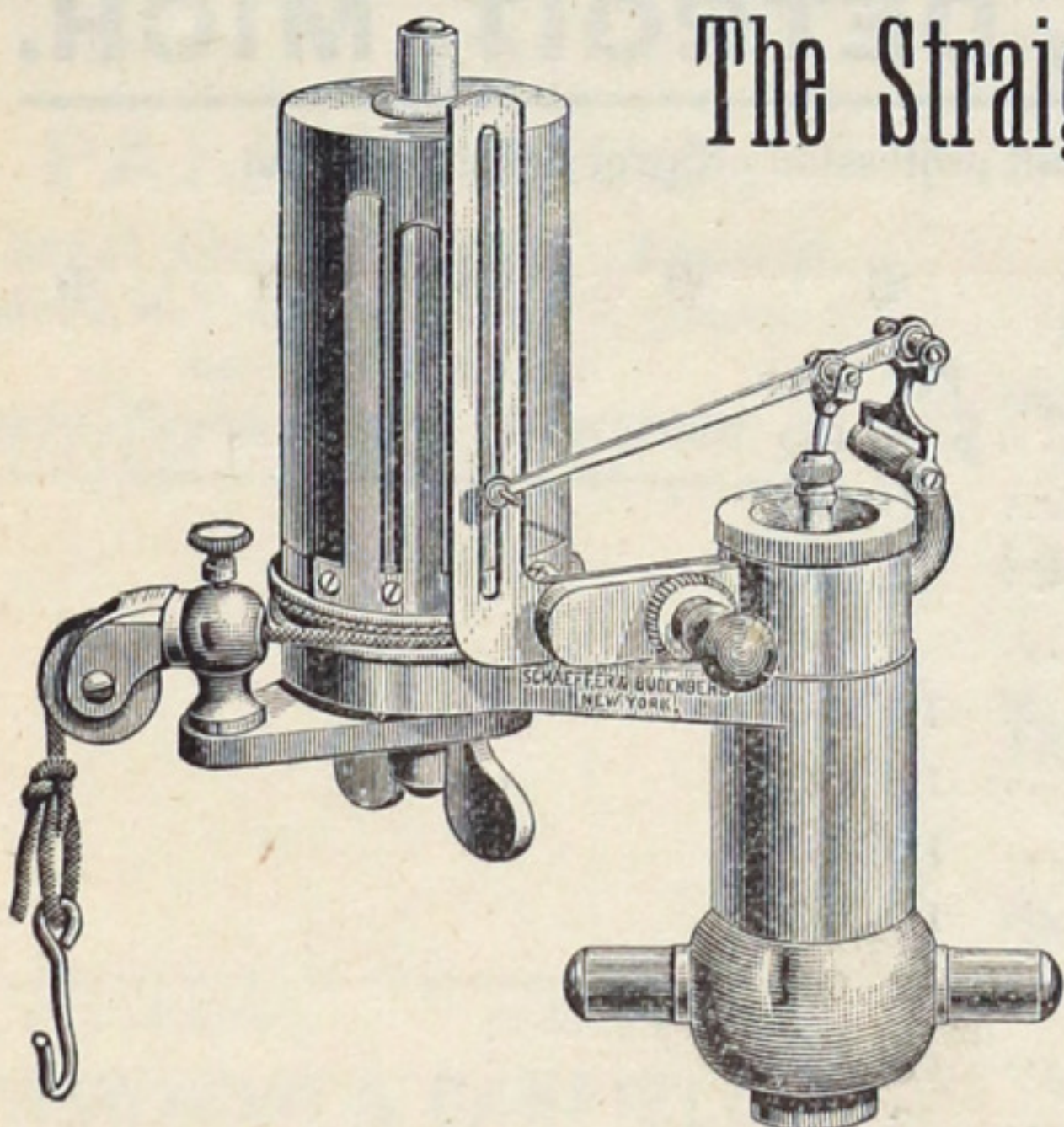
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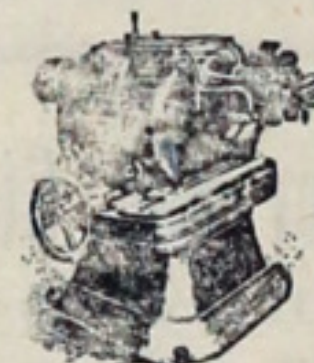
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